

A Cultural Approach to Education via Master Plan Culture, Education, and Community Leaders

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By

Edmound John Ybarra

DArch Project Committee:

Spencer Leineweber & Joyce Noe: Chairperson

William Chapman

Jonathan Ching

Clifford Murakami

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Dedication

This project is dedicated to Spencer Leineweber, who has invested her time, knowledge, and mentorship to in the School of Architecture at the University of Hawai‘i at Mānoa. Her contributions have been invaluable to the field of architecture in Hawai‘i and beyond.

I cannot mahalo you enough for your mentorship throughout my time here. I thank you for your belief in me and constant support which has inspired me to complete this project which we have started together. I hope that it may carry on your legacy and share the knowledge you have imparted unto me.

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To my ‘Ōhana and community you have all inspired me to strive for success, over and beyond, with no limitations. Throughout this experience you have all become the grounding force connecting me back to our community, Nānākuli. To all who reside here, my hope is that you may find your identity as the “knee people” and continue to strive beyond the stereotypical misconceptions that is associated with this ahupua‘a.

To my Committee Joyce, William, Clifford, and Jon you have all invested much time and patience with me, and I cannot thank you enough.

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Abstract

For decades, native Hawaiian public schools have been at the bottom of the national educational ladder. As Hawai‘i’s education system progresses into the 21st century, there is need for contemporary education to address and support the annual intake of 70,000 school children. Twentieth century curricula is based solely on *what* we learn and fails to focus on *how* we learn. Contemporary educational environments in Hawai‘i need to differentiate from that of the 20th century to provide quality education to our youth. By integrating technological advancements and innovative teaching methods in which are driven by cultural awareness, the contemporary education system will provide our children with the learning environments that suit their individual learning behavior, thus paving the way for community growth and future prosperity for Hawaiian children.

Hawai‘i is unique, as it is sensitive to its place, heritage, and people. All of which are factors that are rooted in its distant cultural past. Culture-based education research states that cultural and ethnic identity builds self-esteem and confidence – leading to resiliency among youth and adults. The culture-based education model seeks to mobilize this growing body of knowledge of improving the educational outcomes of individuals, families, and communities. Hawaiian-focused charter schools are innovators in the development of experiential and place-based learning, and are the leaders in focusing on cultural identity as the foundation for social and emotional well-being.

Culture is the continuity of unique languages and practices, thus strengthening familial social connections and support systems.¹ Therefore, the integration of cultural awareness into educational spaces within the architectural design process would improve how we learn. This integration transforms current learning environments that extend beyond the traditional classroom by embracing its surrounding landscape, resulting in the development of an innovative education curriculum. This thesis explores a culturally informed conceptual master plan for a hybridized educational model that merges traditional Hawaiian worldviews, guiding principles, values, and learning styles into the contemporary context.

¹ Shawn Kana‘iaupuni, Brandon Ledward, ‘Umi Jensen, Culture-Based Education and Its Relationship to Student Outcomes, 2010, 3.

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List of Abbreviations

| | |
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| AYP | Adequate Yearly Process |
| BC | Bureau of Conveyance |
| DCGS | Dane Court Grammar School |
| DHHL | Department of Hawaiian Home Lands |
| DOE | Department of Education |
| EDSPECS | Educational Specifications |
| NIEA | National Indian Education Association |
| HFR | Honouliuli Forest Reserve |
| HHCA | Hawaiian Homes Commission Act |
| HSA | Hawaii State Assessment |
| LLCC | Legacy Land Conservation Commission |
| NHIS | Nānākuli High & Intermediate School |
| OR&L | O‘ahu Railway and Land Company |
| SHPD | State Historic Preservation Division |

Introduction

Motivational Drivers

A sense of pride, connection, and kuleana (responsibility) has led coaches to assume roles as mentors within the current athletics program of Nānākuli High and Intermediate School (NHIS). Personal involvement has moved beyond athletics through to participation in community service projects, the supervision of island trips, and the facilitation of sport study halls. As an active member of both athletic and academic activities, it has become apparent that athletes have been subjected to negative stereotypes and that these negative labels and the associated unwanted recognition have stereotyped the Nānākuli community. Kuleana of these roles encourages coaches and players alike to develop new norms, not confined just to winning records, but also academic achievement and positivity. This thesis project has developed from personal experience and lifelong goals towards breaking stereotypes within the given location. It has become both the driving and grounding force that has led this project to carry out such an enormous and ambitious task. New philosophies have enabled youth to grow through and beyond both athletics and academia; instilling hope, pride, and a sense of belonging, and in the process scratching the surface of change within the entire community.

Initial Exploration

A Cultural Approach to Academia via Master Plan: Culture, Education, and Community Leaders has extended beyond the coaching service provided to NHIS while the author was studying architecture at the University of Hawai‘i at Mānoa. Initially, the research project was intended to be a cultural design project for the elderly residents of Nānākuli, deemed as "aging in place". While researching the previous topic the researcher discovered the potential for the project to extend beyond "aging in place" residential homes to the broader scope of developing and sustaining an entire community which "grows in place". Underlining issues of inadequate education, cultural knowledge, and career opportunities became apparent, indicating the need for a project beyond a

residential home or community master plan. The thesis subsequently transitioned into master planning a new public charter school that is integrated with Hawaiian worldviews and the local community.

Research Questions/Hypothesis

The overall research addresses several inquiries guiding this study:

1. How will the restoration of cultural identity within the given locale be integrated within place-based and project-based education, in order to inform a contemporary learning environment?
2. How will a conceptual master plan create a learning environment conducive for all learners, in all methods and spaces of learning?

Methodology

Three research methods are used in this thesis, with none analyzed or implemented independently of the others. The thesis begins with a brief overview of historical time periods before moving into the contemporary context. The Interpretive-Historical research method is utilized to unearth an understanding of cultural displacement of the older generations who resided in the Wai‘anae region of O‘ahu. This Interpretive-Historical research will outline why the community and its educational institutions are in need of cultural identity and a changing of the cognitive mindset in the way individuals in the region perceive themselves. It will inform the subsequent development of a conceptual master plan for a new educational model, solidified by the researcher’s interpretation of the Hawaiian sense of place.

Secondly, this thesis uses Correlational Data research methods to compare community demographics and educational statistics. This allows the formulation of

"cause" and "reasoning" variables to inform the development of a hybrid educational model in a conceptually master planned new school. This method of research is further broken down into sub-methods: Relationship-Studies and Causal-Comparative Studies. These will assist in comparing and analyzing the data in later chapters of the thesis.

Thirdly, the Multiple-Case Studies research method will be utilized to help inform the development of a hybrid educational environment via theoretical replication. As stated by Robert K. Yin in *Case Study Research: Design and Methods*, 2nd ed., a theoretical replication is "a case study that produces contrasting results but for predictable reasons."² The case studies presented within this thesis provide contrasting master plan to inform the new public charter school. Robert Yin goes on to state, "every case should serve a specific purpose within the overall scope of inquiry."³ This is the approach taken within this thesis. For example, Dane Court Grammar School (DCGS) will help with the planning and formulation of learning diagrams, terminology, and activity icons. Likewise, Kanu o ka 'Āina will assist with developing supportive curricula, as well as Hawaiian values, principles, and guiding worldviews to inform the DCGS diagrams, terminology, and activity icons. This combination will help to create an effective and stimulating cultural learning environment with the overall goal of stimulating and sustaining academic advancement.

Existing Knowledge

Cultural Displacement

In traditional Hawaiian society, islanders were in tune with natural surroundings and elements, generating a thorough and deep spiritual connection between 'āina (land), kanaka (people), and Akua (gods). This connection became known as 'ike papalua

² Robert K. Yin in *Case Study Research: Design and Methods*, 2nd ed. Thousand Oaks, Calif.: Sage Publications, 1994, 46.

³ Yin, *Case Study Research*, 46.

(second sight) or extended knowledge which one needed to possess to be considered as educated in the traditional context. This special connection facilitated the generational transfer of knowledge and cultural practices within a Hawaiian community. However, contact with foreigners displaced the islanders from perpetuating this connection, leaving natives unable to identify themselves to place, culture, and time.

Traditional Learning

The purpose of this investigation is to provide a better understanding of traditional learning methods prior to the arrival of western influences, with a focus on the kūpuna (elders) who played an important role as educators. Research of Ms. Mary Kawena Pukui, a Hawaiian cultural historian, who described learning methods taking place during the last days of the Hawaiian Monarchy. This understanding will inform how traditional aspects of learning may potentially be incorporated into current teaching methods today.

This research will also compare and contrast new learning methods with both previous and current educational methodologies. The new types of learning that will be discussed are place-based learning, project-based learning, and cultural-based education. These new learning methods that are currently being applied in the 21st century actually reflect many aspects of traditional learning methods, and this will be discussed later in this project via case studies.

Case Study

The respective case studies of: Dane Court Grammar School, in Kent County, U.K. and Kanu o Ka 'Āina, a bilingual Hawaiian-focused, project and place-based public charter school, Hawai'i Island are conducted. Investigation of these two learning institutions - one with contemporary instruction and the other which uses traditional worldviews and philosophies of instruction. These two case studies will inform the development of innovative, culturally sensitive, and learner-responsive methods to be incorporated into the conceptual master planning of the hybrid educational model.

The analysis of this case study will focus on the process which the Gensler office was able to apply in the restructuring of Kent County schools, specifically the Dane Court Grammar School (DCGS). Components pulled directly from the process of DCGS are planning, terminology, and the concept of flex spaces. By structuring and combining elements into an organized system, the Gensler office was able to redesign the existing campus and facilities as a stimulating learning environment.

Kanu o ka ‘Āina is a bilingual, Hawaiian-centered project and place-based public charter school with grade levels from K through 12- housing roughly 80 percent of students who are of Hawaiian lineage. Established by an energetic, profoundly gifted Hawaiian learning ‘ohana (extended family) in 2000, its developers have created an effective project-based model of academia that is both traditional and contemporary, facilitating the ability to plan and control its own particular method of instruction.⁴

As a Hawaiian-centered model of instruction, Kanu's name, mission, theory, values, pedagogical and authoritative methodologies all connect academia with Hawai‘i's local culture, qualities, connections, and histories. Kanu has moved far away from utilizing rote educational programs intended for conventional classroom learning.⁵

Educational Disadvantages

According to the Hawai‘i State Department of Education, *Publicly Available HIDOE Data* report, the educational system of Nānākuli places relatively lower amongst schools in Hawai‘i. Although a high percentage of understudies graduate from the current High and Intermediate system, only a small portion of those graduates exit as college or career ready. Detailed figures are presented and analyzed in Chapter 3 of this project.

The current educational system seeks to provide learners with the necessary skill sets and competencies to become productive members of their community and potentially

⁴ "Kanu o ka Āina NCPCS," Hawaii Public Charter Schools Network, accessed October 15, 2015, <http://www.hawaiicharterschools.com/school/kanu-o-ka-aina-ncpcs>.

⁵ Ibid,104.

leaders of society. However, until understudies and staff alike are introduced to improved learning environments and teaching methods, academic growth will be hindered.

Therefore, this thesis provides a unique and enhanced conceptual master plan for an educational model informed by both Hawaiian worldviews and innovative learning and teaching technologies. This places understudies in culturally relevant learning environments with the support of community, family, and 'āina, and allows them to advance and fulfill their potential as natives of the 21st century.

Significance of Study

In recent decades, the educational model of learning methods integrated with cultural instruction has become common amongst Hawai'i schools. However, the test scores of Hawai'i's youth are ranked amongst the lowest in the nation, according to the U.S. News & World Report on Education; therefore alternative methods of learning are being sought.⁶ Research from *Culture-Based Education and its Relationship to Student Outcomes* indicates the need for improvement in test scores.⁷ The Hawaiian sensitivity to place, culture, identity, and indigenous ancestral descendants presents unique opportunities to integrate project and place-based learning within the educational environment. In recent years numerous private, charter, and public institutions have implemented Hawaiian worldviews, learning methods, and exploration-based education into their curriculum.

Although these curricula and learning methods have been successful to a certain extent, many institutions are challenged by a lack of proper architectural facilities, spaces, and master planning coinciding with philosophies and values being instructed. One example is seen in Hālau Kū Māna, a Hawaiian public charter school, located on the island of O'ahu. This school is guided by Hawaiian concepts, place-based learning, and distinct cultural practices, but as of now lack the campus planning and facilities

⁶ <http://www.usnews.com/education/best-high-schools/hawaii?int=9abb08>

⁷ Shawn Kana'iaupuni, Brandon Ledward, 'Umi Jensen, *Culture-Based Education and Its Relationship to Student Outcomes*, 2010, 3.

supporting its learning methods and philosophies. Equally relevant (design and instruction), the absence of one creates learning barriers for all users of these particular institutions integrated with culturally relevant learning and real-world situations; globally and communally.

Design Project

Examination of Argument

The investigation of research questions 1 and 2 will inform the conceptual master plan of a new public charter school within the ahupua‘a of Nānākuli. Its focus will be on Hawaiian worldviews and innovative learning strategies implemented within the new school. Because educational institutions are the main vehicles for delivering knowledge, their architecture and master planning should both be a reflection of this and serve as a design model.

Located on the leeward side of O‘ahu, the current Nānākuli High & Intermediate School (NHIS), elementary school systems, and other educational institutions all lack both cultural and educational aspects of architectural design and master planning, presenting the opportunity for the development of the project outlined in this thesis.

Site Context

Honoring the host culture, the undeveloped Department of Hawaiian Home Lands (DHHL) within the upper Valley is the selected site for conceptually master planning the new public charter school. This unique location was selected for several reasons: in reverence to its cultural name, its rural locale, and contingency with the opportunity to be placed at the center of future housing and community developments becoming the valley's new piko (center). The site provides both distinctive cultural knowledge and locations which will help to inform the initial design process.

Conclusion

The researcher will not assume any expertise in developing a charter school curriculum, but will analyze successful learning systems which reflect cultural philosophies and worldviews. This analysis will form the basis of a conceptual master plan for a school that provides contemporary learning opportunities while being sensitive to people, place, environment, and the community.

There is an increasing trend toward educational systems being integrated with Hawaiian worldviews, guiding principles and values in Hawai'i. Several research studies have demonstrated that this is a successful model for improving the learning outcomes of Hawai'i's youth. However, to the author's knowledge, there is no current Hawaiian educational institute which has used this cultural philosophy as the basis for its entire planning and design. To this end the goal of this doctorate project is to provide this culturally-informed conceptual master plan and design for a hybrid educational model that fuses traditional Hawaiian worldviews, guiding principles, and values with contemporary learning and teaching technology.

CHAPTER 1: CULTURAL DISPLACEMENT

Wai‘anae Moku, Ahupua‘a of Nānākuli

Introduction

The goal of this chapter is to provide perspective on the displacement of cultural practices and forgotten identity; as well as outlining the positive traditions and famed mo‘olelo (*stories*) of ancient Hawai‘i. Providing a positive understanding of the true identity rooted in the host culture will inform the development of a hybrid educational model for Nānākuli in the Wai‘anae district. This educational model will subsequently be outlined in later chapters and will provide justification for the paradigm shift of this thesis. Initially, the thesis was for a proposed new middle school. However, it became apparent during the research that developing a conceptual master plan for the design of a new K-12 public charter school instead would be a preferable option, as it would ensure a culturally relevant learning environment is created for all youth, not just middle school understudies.

This chapter will provide a timeline of historical events throughout Hawai‘i. The focus will be on events that have displaced people in Wai‘anae generally and Nānākuli more specifically during three distinct time frames:

1. Prior to foreign contact: (before 1778)
2. Directly after foreign contact: (1778 to 1849)
3. Contemporary times. (from 1849 onwards)

In general, displacement led to a disconnection from the natural resources (‘aina), sense of place, concept of community, use of indigenous language and distinct cultural identity. Prior to western contact, the ancient people of Wai‘anae lived dependent on island resources as agriculturally productive and positive people. Cultural practices and

Since then stereotypes have been placed upon certain members of the Wai‘anae community and have become practical barriers that hinder progress. This has resulted in a community who faces daily social and behavioral problems from individuals who are referred to as “deaf” and “dumb”.



Land Divisions of Wai‘anae (Ahupua‘a):

The ahupua‘a of Nānākuli lies in the moku of Wai‘anae, along with nine other ahupua‘a (land divisions extending from mountain to sea) on the leeward side of O‘ahu, as shown in figure 1. From the southeast end of Wai‘anae, Nānākuli is the first land division of the moku. Lualualei, Wai‘anae Kai, Mākaha, Kea‘au, ‘Ōhikilolo, Mākua, Kahanahāiki follow, ending with Keawa‘ula in the northwest. These are the traditional names of the Wai‘anae moku.

In ancient times, Wai‘anae was noted for its abundance of marine resources. Natives excelled at deep sea fishing, especially off the shores of Keawa‘ula (Ka‘ena). The Hawaiian word Wai‘anae (mullet water) refers to a period when the moku held a vast amount of mullet -‘anae (fish) and Wai (water). Today Wai‘anae is still considered to be amongst the most notable fishing spots on the island of O‘ahu.⁸

Ancient Mo‘olelo (stories) and Oli (chant) of Wai‘anae:

Located on the western end of O‘ahu, Wai‘anae is noted for sparse clouds and relentless heat. This heat is offset to some extent by the soothing Kaiāulu winds, which are well-known in both oli and mele. The Kaiāulu winds are mentioned in several traditional ‘ōlelo no‘eau (proverbs) by Reverend Henry P. Judd (Kuaka) and Samuel Manaiakalani Kamakau.

⁸ Ko‘ohulani, McGuire, and Hammatt, Hallett. "1999 Native Hawaiian Gathering Rights Assessment for the Proposed Nānākuli 242 Reservoir Site and 20’’ Transmission Main Along Nānākuli Avenue, Nānākuli, Wai‘anae District, Island of O‘ahu (TMK: 8-9-8:3). Cultural Surveys Hawai‘i, Kailua, Hawai‘i." 1999. Accessed January 13, 2015, 12.

Reverend Judd describes the Kaiāulu winds in the ‘ōlelo no‘eau:
Ola ‘O Wai‘anae I ka malu Kaiāulu.
Wai‘anae survives in the shade of the Kaiāulu winds.⁹

Samuel Kamakau describes Wai‘anae and the Kaiāulu winds in a poem:
Wai‘anae of the gentle Kaiāulu wind, sweet waters of ‘Eku, the thick poi
of Pāhoa, the stringy poi of Lehano and Kūāiwa, the rich poi of Kaimaile,
and the aku fish "tidbits" (aku nahu pū) of Wai‘anae- in Wai‘anae, land
beloved the sun.¹⁰

In ancient times, Hawaiian hero Kawelo was known as an expert fisherman and resided in the Keawa‘ula (Ka‘ena) area of Wai‘anae. He and several others are renowned in oral traditions as pillars of the Wai‘anae region. Amongst Kawelo are Pōka‘ī and Mō‘eke, two famed Hawaiian descendants who became stewards in these lands and considered Wai‘anae to be their home. Oral traditions reference the grove of Malaea (a famed ancient coconut grove of Wai‘anae), where Pōka‘ī planted coconuts. It is revered in chant and song as well as being found in the writings of Samuel Kamakau. Unfortunately, the grove no longer stands because of western development, with water having been diverted from the grove to sugar plantations.

Another mo‘olelo of the moku refers to the Hawaiian hero Māui. It is believed Māui and his siblings were born in a stream known as Uleawa (in the ahupua‘a of Lualualei, contemporary Nānākuli) and it is here where they perform many of the famed mo‘olelo of the Hawai‘i islands today.¹¹

In the majestic mountain ranges stands Mt. Kaala, which is considered to be the most scared peak in the Wai‘anae region. It is also the highest peak on O‘ahu (4003 ft.), and some believe it is where Kamapua‘a (a half-man-half pig) resides. Another known Hawaiian goddess, Kōina, is said to reside in Ka‘ala as well, and who sends a ‘iwe

⁹ Mary Kawaena Pukui, *‘Ōlelo No‘eau: Hawaiian Proverbs & Political Sayings*, (Honolulu: Bishop Museum Press, 1983), 273.

¹⁰ Kamakau, Samuel Manaiakalani, and Mary Kawena Pukui. *Tales and Traditions of the People of Old = Nā Mo‘olelo O Ka Po‘e Kahiko*. Honolulu: Bishop Museum Press, 1991, 106.

¹¹ McGuire, Ka‘ohulani, A Traditional Practices Assessment for the Proposed Nānākuli IV Elementary School Site, Nānākuli, Wai‘anae District, Island of O‘ahu (TMK: 8-9-02:65, 23, por. 1), 12.

(native bird) to guide fatigued and lost travelers. Native plant species like the sweet maile lau (*Alyxia oliviformis*) and scented palapai (*Microlepidia strigosa*) that were desired by the ancient hula dancers for attire are also found there. The two plants are considered sacred and associated with the hula goddess Laka.¹²

Ending of Ancient Periods and the Wai‘anae Contact with Europe and the Western World:

There are written accounts from both local and foreigners alike of the Wai‘anae moku and Nānākuli area throughout the early 1800s. The journals of Levi Chamberlain, George Vancouver, Hiram Bingham, and Samuel Kamakau (European explorers and Hawaiian cultural historians) all describe the lifestyle and landscape during this ending period of the ancient Wai‘anae. All gathered information during or recently after the ancient period Hawai‘i.

Written by George Vancouver in his journal: (1790-95)

Nearly in the middle of this side of the island is the only village we had seen westward from Opoo-roah [Pu‘u of Pearl Harbor]. In its neighborhood the bases of the mountains retire further from the sea-shore, and a narrow valley, presenting a fertile cultivated aspect, seemed to separate, and wind some distance through the hills. The shore here forms a small sandy bay. On its southern side, between the two high rocky precipices, in a grove of coconut and other trees, is situated the village, and in the center of the bay about a mile the north of the village, is a high rock [Mauna Lahilahi], remarkable for its projecting from a sandy beach.¹³

¹² McGuire, A Traditional Practices Assessment, 12-13.

¹³ Vancouver, George, John Vancouver, and London Row. *A Voyage of Discovery to the North Pacific Ocean, and round the World: In Which the Coast of North-west America Has Been Carefully Examined and Accurately Surveyed : Undertaken by His Majesty's Command, Principally with a View to Ascertain the Existence of Any Navigable Communication between the North Pacific and North Atlantic Oceans, and Performed in the Years 1790, 1791, 1792, 1793, 1794, and 1795, in the Discovery Sloop of War, and Armed Tender Chatham, under the Command of Captain George Vancouver : In Three Volumes*. London: Printed for G.G. and J. Robinson, Paternoster-Row, and J. Edwards, Pall-Mall, 1798.

Vancouver's account is about the Pōkaʻī Bay area. When the description is combined with Hiram Bingham's drawing of the Oʻahu's leeward side shown in figure 2, one can clearly see Kāneʻilio Point in the foreground and the extensive coconut groves of Kamaile iʻli, Pāhoa, and Pōkaʻī Bay in the center left.

It is in Waiʻanae Kai where the first villages of the moku are believed to have been settled, subsequently prospering in both marine resources and inland taro. In close proximity to Pōkaʻī Bay was the Kamaile ili, which believed to have had a vibrant habitation. To its north stands ʻunu ridge, and at its base is where the noted Kekoʻo spring was once situated. Levi Chamberlain, a British Captain wrote:

"A groove of coconuts through the midst of which runs a bountiful stream of clear water from the mountains. Houses are scattered here and there in the grove and clumps of sugarcane and rows of banana. "¹⁴

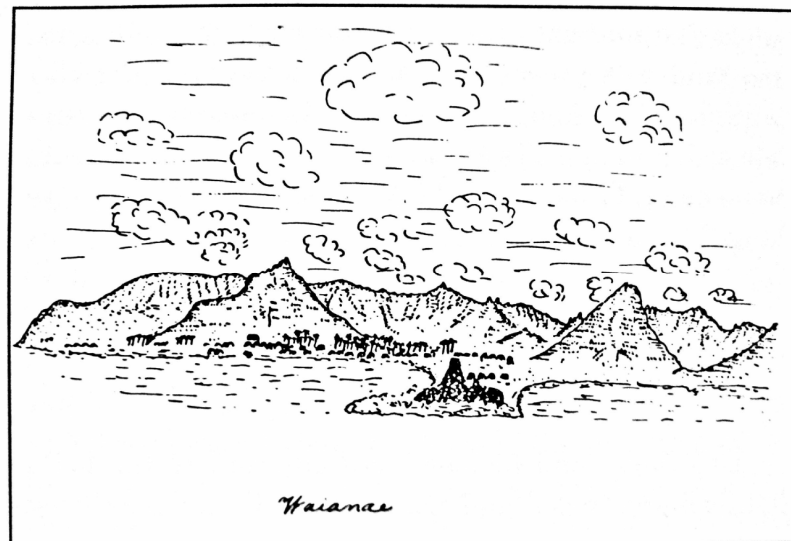


Figure 2: Drawing of Waiʻanae Kai around 1821-1830 by Hiram Bingham (in Cordy 2002:55). Foreground is Kāneʻilio Point. In the background are the houses and coconut groves of Pāhoa and Pōkaʻī ʻili along Pōkaʻī Bay and Kamaile ʻili in the center left.

Source: Cordy, Ross H. "Settlements in Waiʻanae Kai" *An Ancient History of Waiʻanae*, (2002): Figure 10, 55.

¹⁴ Chamberlain, Journals, 486.

The poem of Samuel Kamakau, mentioned previously, indicates Waianae's rich produce, "...its sweet water of 'Eku, the thick poi of Pāhoa, Lehano's stringy poi, Kaimaile's rich poi, and abundance of aku fish..." This supports descriptions made by Chamberlain and his accounts of a "bountiful stream of clear water and houses are scattered here". All descriptions were made at sea, observing villages from afar, indicating houses must have been in large clusters. This means a substantial amount of water and food resources were present in the nearby areas. A fresh water source is needed to sustain a village's population and allow the development of its resources.

John Papa I'i

Yet another description comes from a native, John Papa I'i, in the early 1800s. As a young child he visited his aunt Kaneiakama in Nānākuli. I'i is credited with being on the royal court of Kamehameha the Great, Unifier of the Hawaiian Islands and a renowned leader.

I'i described the people on this side of the island as well known, of "chiefly stock and privileged to place their bundles with those of the chiefs".¹⁵ Kamehameha the Great's favored wife, Ka'ahumanu, held land in Wai'anae, and become very fond of Papa I'i's aunt Kaneiakama. Ka'ahumanu fell in love with Kaneiakama's ability to compose chants. So Ka'ahumanu gave Kaneiakama the lands of the Wai'anae moku.¹⁶

On one of his visits, Papa John I'i described the breadfruit trees of Nānākuli and the singing children who made a particular quavering sound when chanting and sitting on the branches of these breadfruit trees. Everyone from Nānākuli, including I'i, became familiar with the popular chant. Having such admiration and love for this particular place and people, I'i always returned and spent time there.¹⁷

¹⁵ Chiogioji, McDermott, McGuire, Nānākuli VI Elementary School, 21.

¹⁶ Ibid, 21.

¹⁷ Ibid, 22.

John Papa I‘ī briefly wrote about the ‘ōku‘u epidemic in 1804 which had striking characteristics of the disease cholera. John Papa I‘ī stated, the epidemic "broke out, decimating the armies of Kamehameha I, on the island of O‘ahu.¹⁸

Samuel Kamakau

Hawaiian historian Samuel Kamakau wrote in the same period of another important development taking place, the Sandalwood trade, which displaced many people from their traditional jobs. In traditional times, Sandalwood was used for the scenting from tapa (clothing and arts), but more importantly, for medicinal purposes. By 1811, large quantities of Sandalwood were sent to China. With Kamehameha I reigning, he and his lower chiefs controlled the bulk of the sandal wood trade.¹⁹

Kamakau wrote, "The chiefs were ordered to send out their men to cut sandalwood...The chief immediately declared all sandalwood to be property of the government."²⁰ The sandalwood trade market drastically impacted the traditional lifestyle and landscape of the native population.

An ongoing battle for the conquest of islands placed many Ali‘i (chiefs) in debt in their quest to acquire western products like guns, ships, and ammunition. Large debts were paid off in shiploads of sandalwood. Kamehameha I found value in such trade of native resources and gave the order ... "the people are not to let the felled trees fall on the young saplings, to ensure their protection for future trade".²¹

The chiefs demanded large amounts of sandalwood, forcing natives inland from their villages. This created a vast labor shift from the fields into the forest. With more workers in the mountains, fields went uncultivated leaving a scarcity of food. People

¹⁸ Ibid, 22.

¹⁹ Ibid, 22.

²⁰ Kamakau, Samuel Manaiakalani, and Samuel Manaiakalani Kamakau. *Ruling Chiefs of Hawaii*. Rev. ed. Honolulu: Kamehameha Schools Press, 1992, 204.

²¹ Kamakau, *Ruling Chiefs of Hawaii*, 209-201.

were forced to rely on tree ferns and herbs, resulting in the famine known as Hīlaulele or Hāpu‘u.²² With people eating wild plants this led to illnesses that affected many natives at the time.

Arrival of Missionaries

The arrival of missionaries to the islands during the early 1800s led to the first Hawaiian population census and changes within learning and religious beliefs. In 1823, Rev. William Ellis visited the island and reported the population to be about 20,000. The figures gathered provide a glimpse of each island’s population and in some cases that of each ahupua‘a. There are no records in particular pertaining to the Nānākuli, but estimates are referenced to those figures provided for the Wai‘anae district. In 1831 and 1836, two census data collections for the Wai‘anae district were 1,868 and 1,654 respectively.²³

Mid-1800s: Land Commission Awards - Crown Lands Paying Debts

During the time of the Great Māhele, the Wai‘anae district, which included Nānākuli, was the property of Kamehameha III and considered Crown Lands. With the debts of the chiefs enduring throughout the mid-1800s, the leasing of large unused portions of land to high chiefs and foreigners became common. These leases were provided in the hope of paying off large debts incurred with American merchants. Until the Land Act of January 3, 1865, which made Crown Lands inalienable, Kamehameha III and his successors did as they pleased with Crown Lands, selling, leasing, and mortgaging them at will.²⁴

Kuleana Act of 1850

Not until 1846 were commoners able to apply for title to lands through the Land Commission. Under the Kuleana Act of 1850 such claims had to be submitted with several requirements: two witnesses verifying claimants and the boundaries claimed, as

²² Ibid, 204.

²³ Chiogioji, McDermott, McGuire, Nānākuli VI Elementary School, 23.

²⁴ Ibid, 24.

well as testifying that the claimants had lived on the land for a minimum of two years, with no other contest of the claim. Yet another stipulation required land to be surveyed, which restricted the majority of natives from receiving land.²⁵ With little or no literacy in the English language, a large quantity of natives who were eligible to acquire land did not. If they applied they generally failed to receive claims. For reasons unknown, less than 30,000 land claims were awarded, at a time when 1,500,000 acres of government land was available for all native Hawaiians.²⁶

A total of only five land claims were reported from the ahupua‘a of Nānākuli under the 1850 Kuleana Act, with all five claims not being awarded.²⁷

Table 1: Land Award Claims in Nānākuli Ahupua‘a

| Claim # | Claimant | Ahupua‘a | ‘Ili | Land Use | landscpa Features |
|---------|-----------|----------|----------------|---|---|
| 830 | Mahiki | Nānākuli | n/a | 3 land and house | Carin on north, east, & west stream, south of other houses. |
| 833 | Kahananui | Nānākuli | Nānākuli Kaape | 2 land claims and house 1 land claim | North carin, east stream, south wallh of other houses. |
| 846 | Awa | Nānākuli | n/a | 4 lands scattered | Pali & stream |
| 7455 | Kuluahi | Nānākuli | Hapai | Muliwai, pond, cultivated kula & firewood, valley of house lot | n/a |
| 853 | Haulula | Nānākuli | Kuamookahi | Kula of sweet potatoes, upland for wauke & firewood houses in kula. | n/a |

n/a= not applicable

Source: Author

These records provide insight as to the geographic composition of the population and how these lands were used. In table 1, One claimant by the name of Kuluahi provided an account of his land in the ‘Ili of Hapai, claiming to have 1 house lot, 1 wauke -"a

²⁵ Ibid, 24.

²⁶ Ibid, 24.

²⁷ Ibid, 24.

muliwai, a pond, a cultivate kula and for firewood, and a valley planted in wauke (paper mulberry)".²⁸

The 1855 tax records show that a total of eight people paid only \$26 in taxes, which suggests Nānākuli at the time was not heavily populated.²⁹ This may be so, or it could indicate those who did not receive land claims under the Kuleana Act of 1850 failed to pay taxes, believing they did not owe the government.

Ranching and Plantations: Late 1800s

Nānākuli and Lualualei were leased out by Kamehameha III and his successors for the sole purpose of cattle ranching. During the mid-1800s, records show the entire back of Nānākuli valley was permanently used for ranching. Ranching in the Wai‘anae district is believed to have started in Lualualei valley; the Bureau of Conveyance records show that one William Jarrett leased 17,000 acres of land from Kamehameha III in 1851.³⁰ In 1869, William Jarrett sold his remaining share of the Lualualei ranch to James Dowsett, a descendant of a British sea captain.³¹

In 1880, George Bowser recorded his travels through the Wai‘anae district and briefly wrote about the ahupua‘a of Lualualei and Nānākuli. His encounters and descriptions make it clear that the sugarcane plantations had not made their way to the lands of Wai‘anae and Lualualei. Bowser continued on his travels and briefly described the ahupua‘a of Nānākuli.

From the Lualualei Valley to the Nānākuli Valley I had a rather dreary ride of three miles. The intervening country towards the sea is barren, with a little pasturage at the base of the mountains. The track, however, is in very good order, much better than I expected to find, looking to the mountainous and rocky character of the country through which it passes. At Nānākuli and at Hō‘ae‘ae, close adjoining, the Messers. Robinson have cattle ranches. The pasture here cannot be compared with that in the valleys I have just left behind, but inland among the mountain ranges it is much better.³²

²⁸ Ibid, 24.

²⁹ Ibid, 25.

³⁰ Ibid, 25.

³¹ Ibid, 25.

³² Ibid, 26.

Wai‘anae Sugar Plantation

Herman A. Widemann brought sugar plantations to Wai‘anae in 1878. He was a retired Supreme Court of Justice judge. Roger Green states, "between 1878 and 1884 the economy and community of Waia‘nae underwent a change, in which the former Hawaiian landscape virtually disappeared."³³

The population of Wai‘anae in 1894 grew to become the second largest settlement on the island of O‘ahu behind Honolulu. In 1890, 600 acres of land was processed by the Wai‘anae Sugar Plantation, comprising of a 12 mile railroad stretch by over 300 skilled laborers. In the same year the census reported the Wai‘anae district to have a population of 903 residents.

O‘ahu Railway and Land Company

In March of 1889, the O‘ahu Railway and Land Company (OR&L) began construction of the railway and by 1890 the first stretch of track was operating. Benjamin Franklin Dillingham (the originator of the railway), James Castle, and others personally sought track branches to reach the plantations, in order to import and export resources out of Wai‘anae. Their economic pursuit led them to connect Honolulu by rail to Kahuku, Waialua, ‘Ewa, and the Wai‘anae district. The railway reached Wai‘anae on July 4 1895, and remained active until the Wai‘anae Sugar Plantation closed its doors in 1946.³⁴ The cultivation of sugar forever altered the Hawaiian landscape, solidifying the disconnection to traditional ways of life in the 1900s.³⁵

Homesteading in Wai‘anae

Crown Lands under the rule of the Hawaiian government came to an abrupt end with the illegal overthrow of government in 1893. Both Crown Lands and Government Lands were combined and considered to be Public Lands. The Wai‘anae Coast

³³ Ibid, 26.

³⁴ Ibid, 27.

³⁵ Ibid, 27.

experienced homesteading in two phases - first in the Lualualei area in the form of agriculture, and secondly, in the Nānākuli area with residential development.

In the late 1920s and 1930s, the Hawaiian Homes Commission Act set aside 200,000 acres of land for native Hawaiians with a blood quantum of fifty percent or more. The pastoral land leases in Nānākuli were up, so lands were subdivided for residential homesteading lots. With the Wai‘anae Sugar Plantation still tapping into the district’s main source of water, there remained the question of drinking water availability for homesteaders.³⁶

The newly built homesteads and the Sugar Company in the Wai‘anae district found themselves fighting for water. This caused great disturbance within the community, forcing many homesteaders to obtain water by carrying it from the source back to their homes. The Wai‘anae Sugar Plantation had a lease with the government to take 2.5 million gallons of water daily from these lands, but in 1924, a deal was made between the two to allow 112,000 gallons of water to be routed daily to the homesteaders.³⁷

Military in Wai‘anae District

In the aftermath of World War II and the bombing of Pearl Harbor, life on the Hawaiian Islands was heavily affected by military operations, especially along the Wai‘anae Coast as shown in figure 3. Its sandy shores and valley ridgelines became decorated with concrete bunkers, gun mounts, and treacherous barbwire, restricting locals to specific areas within the valley.³⁸

Two natives, one of Lualualei Valley referred to as Resident 1, and Resident 2 of Nānākuli Valley described their memories of the Wai‘anae district in an interview with

³⁶ Ibid, 29.

³⁷ Ibid 28.

³⁸ Ibid, 30.

Ka'ohulani McGuire in a cultural survey report for the Nānākuli VI Elementary School Site, where the Military Camp Andrews once stood.³⁹

In his interview, Lualualei Valley Resident 1 described life as it was during the days of WWII on the Wai'anae Coast with 8:00 o'clock curfews indicated by a several loud beeping sounds. Resident 1 mentioned military camps from Nānākuli to Mākaha, restricting the natives from accessing beach grounds and other once popular hang outs. Resident 1 stated that the lifestyle during these times was very rough.⁴⁰

In an interview with Nānākuli Resident 2, he described curfew and how the entire valley went into a blackout mode. He described windows covered with army blankets and beaches from Nānākuli to Mākua being restricted with barbed wire and military bunkers, which remain to this day. Resident 2 also recalled the parking of military vehicles and tanks with no regard at times, even to family property.⁴¹

Following the years of WWII, the lower portions of Nānākuli Valley were developed for residential lots. The uplands of the valley continued to be used for animal husbandry - ranching of cattle and horses, pig and poultry operations.⁴²

³⁹ Ibid, 31.

⁴⁰ Ibid, 31.

⁴¹ Ibid, 31.

⁴² Ibid, 31.

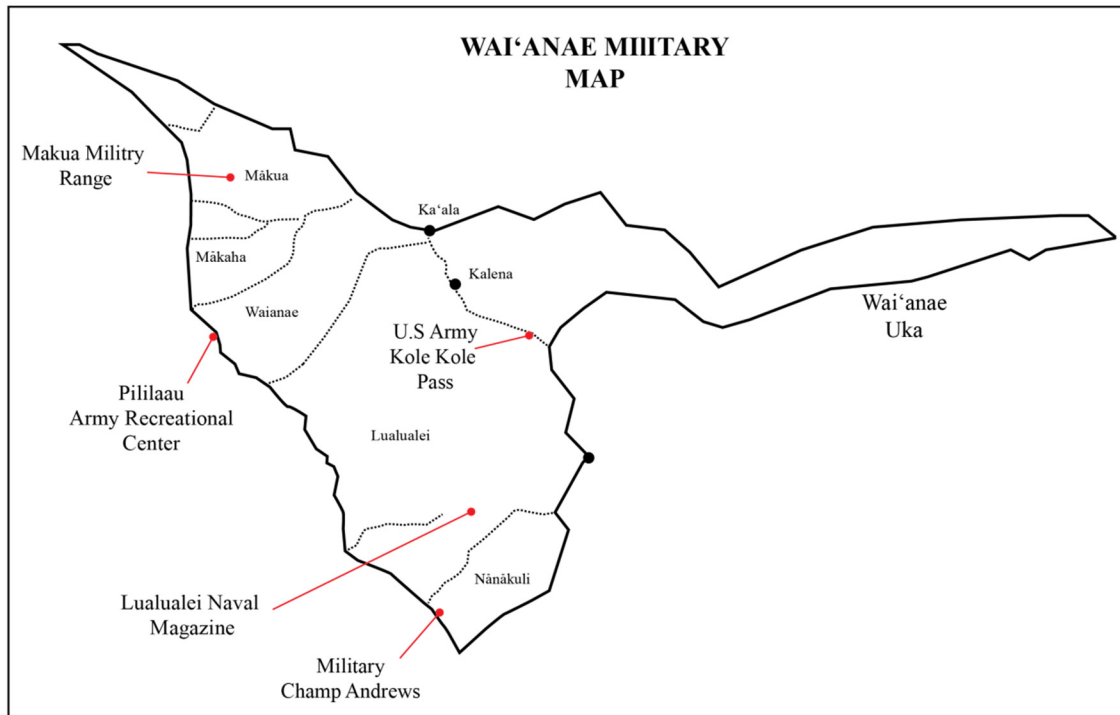


Figure 3: Military bases in Wai'anae.
Source: Author

The Ahupua'a of Nānākuli:

The ahupua'a of Nānākuli is enveloped by a series of mountain ranges connecting it to the Wai'anae Mountains, marking its border in ancient times. Nānākuli is the first ahupua'a of the Wai'anae moku as one enters from the 'Ewa district, southeast of Wai'anae. To the south is the ahupua'a of Honouliuli in the 'Ewa district and to the west is the ahupua'a of Lualualei in the Wai'anae district. The valley runs from its sandy shores inland, a distance of about 3.1 miles. Its 1,062 acres of mostly rocky and dry land contains several perennial streams which flow from the upper valley ridges, until joining and exiting out to sea on the southern side of the valley.⁴³

⁴³ Cordy, Ross H. *An Ancient History of Wai'anae: Ka Moku O Wai'anae: He Mo'olelo O Ka Wā Kahiko*. Honolulu, Hawaii: Mutual Pub., 2002. 80.

The Nānākuli Valley itself is made up of several mountains ridges starting from the southern end at Mt. Pu‘u Manawahu (dividing Honouliuli and Nānākuli), moving on to Pālehua, then to Mauna Kapu, heading up towards the back of the valley at Palikea, before slowly dipping down as it heads back to sea, and then rising up again to the peak of Pu‘u Heleakalā, the northwestern mountain range of the Valley. Pu'u Manawahu, which means “nausea hill” or “grief hill” peaks at 2,401 feet (723m) high. Mt. Mauna Kapu, translated as "scared mountain" separates the Nānākuli Valley and Honouliuli Forest Reserves. The farthest ridge, Palikea, peaks at 3,098 feet (944m) high and is a part of the famous Wai‘anae range. Finally, dividing Nānākuli Valley from Lualualei stands Pu‘u Heleakalā, where mo‘olelo tells of Māui the Hawaiian hero and his conquest of holding back the sun (see fig. 4).⁴⁴

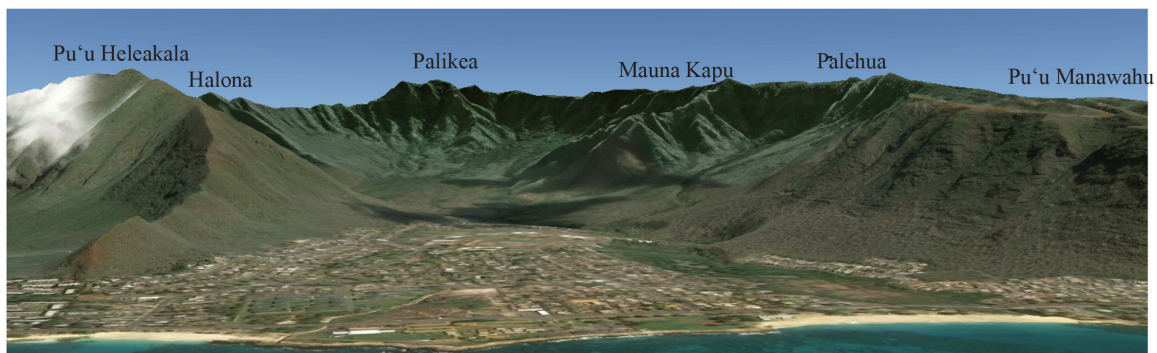


Figure 4: Nānākuli Mountain Ranges.
Source: Author

Figure 5, the main Nānākuli Stream runs on the southern side of the Valley, starting below Mauna Kapu and Pālehua, and is sourced by underwater springs. These small tributary streams travel down the Valley slopes, some traveling to the northern side below Pu‘u Heleakalā. As these streams progress down the upper Valley floor they soon join on the ‘Ewa side of the Valley below Pu‘u Maunawahu, forming the Nānākuli Stream and exiting out to sea at Zablan Beach Park. Lack of field investigations have led researchers to believe the Valley has no significant agricultural ruins of kalo (taro) fields,

⁴⁴ Pukui, Mary Kawena, and Samuel H. Elbert. *Place Names of Hawaii*. Rev. and Enl. ed. Honolulu: University Press of Hawaii, 1974, 202.

concluding that these intermittent streams never flowed consistently in the past. However, the upper Valley receives 20-40 inches of rain annually.⁴⁵



Figure 5: Nānākuli Stream systems starting in the upper valley and draining out to the ocean at Zablan Beach Park.

Source: Author

⁴⁵ Ross Cordy, *An Ancient History of Wai‘anae*, 80.

A popular swimming spot in the ahupua‘a is known as Nānākuli Beach Park, which in the 1920s was known as the Kalaniana‘ole Beach Park, named after Prince Jonah Kūhio Kalaniana‘ole. Long time residents refer to it as the Nānākuli Beach Park. It stretches from one end on the south side of the Valley, where the Nānākuli Stream extends into the ocean and continues onto where now stands the Ka Waihona o Ka Na'auao Charter School. It is believed that in ancient times the Nānākuli Beach was made up of sandy dunes and considered one stretch of beach. In the 1920s the first residents were the Zablan family, who are now associated with the southern portion of the Beach. Zablan Beach Park is a popular swimming area for many families today.⁴⁶ Between Nānākuli Beach Park and Zablan Beach Park is an area known to the locals as ‘Flats’ because waves in this section of the beach are normally flat, a prime spot for keiki (children) to swim.

The Naming of Nānākuli

Prior research of the ancient mythology of Nānākuli Valley has developed the shared belief of a place with little agricultural wealth and no pertinent source of drinking water, prompting residents to rely on marine resources. Mo‘olelo that has been suppressed has been unearthed, shedding light upon the lost landscape and identity of the maka‘āinana (common people) who once resided here.

The naming of each particular moku, ahupua‘a, Wahi Pana and so on held significant meaning to those who resided in each geographical location. It signified identity, structure, status, and at times negative assumptions. In the traditional period, natives lived off the sustenance of the land and because of this they developed a deep

⁴⁶ Lincoln, Shannon K.K, and Hammatt, Hallett H., Cultural Impact Assessment for the Farrington Highway Intersection improvements Projects, Nānākuli and Lualualei Ahupua‘a, Wai‘anae District, Oahu Island (TMK (1) 8-9-001, 002 an 005;8-7-008:por. 036 and 037,70.

connection with it. This environmental awareness allowed natives to name the natural elements such as wind, rain, mountains, rocks, plants, and species. This knowledge was passed down to each generation, solidifying their survival and identity as those who resided within each respective location.

These ancient associations of Nānākuli could have been lost in various time periods throughout Hawaiian history, especially when natives were restricted from practicing their cultural heritage through ‘Ōlelo (language, speech).

Misconception of Nānākuli

A common translation of the ahupua‘a supports the misinterpretation that Nānākuli means, “to look deaf and dumb”. This translation historically refers to the behavior of Nānākuli residents who were embarrassed by not being able to give food and water to passing strangers, and pretended to be deaf, looking to their knees.

Nana, translates to "look" and,
Kuli, as "knee or deafing."⁴⁷

During the Great Māhele of 1848 several lands in the Wai‘anae moku were taken over, losing many long time native residents. From this point on the ancient names, mo‘olelo, and oli and distinct cultural practices were slowly forgotten and lost.⁴⁸ At the time of the overthrow and some years later, O‘ahu and the other islands became a very harsh place to live. These once populated lands became unsafe for native Hawaiians. Prince Jonah Kuhio Kalaniana‘ole became a delegate to Congress from 1902-1922, and convinced both Houses of Congress to sign the Hawaiian Homes Commission Act on July 9, 1921. This Act allowed native Hawaiians with 50% or more blood quantum to acquire land in the hope of rehabilitating the native population and culture. Shortly

⁴⁷ Sterling, Elspeth P., and Catherine C. Summers. *Sites of Oahu*. [Rev. ed. Honolulu: Dept. of Anthropology, Dept. of Education, Bernice P. Bishop Museum, 1978, 62.

⁴⁸ Kamae, Lori Kuulei. *The Empty Throne: A Biography of Hawai‘i's Prince Cupid*. Honolulu: Topgallant Pub., 1980. 191.

thereafter, waves of natives who resided in the city made their way to the sandy shores of Nānākuli.

As the Nānākuli community grew alongside its new residents, ancient associations became forgotten, while newer ones arose. These new associations would forever bind the community and those thereafter. The research conducted on Nānākuli and its ancient description aids in the understanding of its present context. Because of its rocky, dry land layout and lack of running streams, its name was misinterpreted. However, with further investigation of mo‘olelo pertaining to high priests, mountains ranges, archaeological ruins, and famed Hawaiian figures, this misinterpretation begins to unravel.

Māui in the Wai‘anae Moku

Māui was a famed hero who is believed to have been born in a nearby stream in the ahupua‘a of Lualualei, also known as Ulehawa Stream.⁴⁹ Hina, the mother of Māui, made tapa (cloth) in a cave on the western side of the Nānākuli Valley mountain range. Mo‘olelo tells the story of how the sun crossed over the islands quickly, restricting Hina from having enough time to dry her tapa. So the young Māui climbed to the peak of Pu‘u Heleakalā and snared the sun for his mother.

It is here in Nānākuli that the large pu‘u blocks the sun’s rays as it sets behind the Kaena horizon. Pu‘u Heleakalā literally translates as "snare the sun", as follows:

Hele - to snare
A - belonging to
Kalā - sun⁵⁰

⁴⁹ Sterling and Summers, *Sites of O‘ahu*, 62.

⁵⁰ Ibid, 62.

This is not to be confused with Mt. Haleakalā on the island of Māui, which translates as:

Hale - house
A - belonging to
Kalā - sun⁵¹

In an article dated August 11, 1899, the original Hawaiian print newspaper, *Nupepa Koukoa*, described Pu‘u Heleakalā as follows:

...It wasn't long when we arrived at Nānākuli and then to a place which bears a peculiar name, said to be the one on which the rays of the sun was broken. This is a barren hill as though plants hated all of its sides. I saw the cave in which [Hina] made tapa cloths on the slope of a hill facing a stream whose mouth was at a place with a peculiar name.⁵²

This same article describes Nānākuli as "...a place which the rays of the sun are broken, and the sighting of Hina's cave facing a particular stream..."⁵³ and gives credit to the ancient stories of Māui the famed hero in the Wai‘anae district, particularly in Lualualei and Nānākuli. Other examples of ancient stories which mention Māui and his siblings originating from the Wai‘anae moku include the following.

Mrs. Lehua Kapaku:

The mo‘olelo of Mrs. Lehua Kapaku, another resident of Nānākuli, brings credibility to Māui and his siblings having originated from the island of O‘ahu and may support the naming of the Nānākuli district in ancient Hawai‘i.

Māui had several brothers and two sisters. One sister was Lualualei, which means “sacred wreath” and is the name of the Ahupua‘a north of Nānākuli. The second sister was a beloved baby, named Nānāiku‘ulei, which means, “look to my pretty lei”. Mrs. Lehua Kapaku suggests that this may be the original name for the Nānākuli Ahupua‘a.⁵⁴

⁵¹ Ibid, 62.

⁵² Ibid, 62.

⁵³ Ibid, 62.

⁵⁴ Ibid, 62.

Fred Cachola's Encounter of Māui

Another story by Fred Cachola relates to an outcropping known to be Māui's rock as shown in figure 6. According to J. Gilbert McAllister in *Archaeology of O'ahu*, a particular rock in the Lualualei area is believed to be where Māui "reposed and sunned himself."⁵⁵ In an interview with Ka'ohulani McGuire for the 1999 Cultural Impact Assessment (CIA), Mr. Cachola recounted that late one evening he and his longtime acquaintance Black Ho'ohuli went on an expedition in search of this particular rock associated with Māui. The two men made their way to the Garden Grove Housing Development. They had an encounter with an elderly security guard, who at the time guarded the grounds at night while the subdivision was being built.⁵⁶ The two men agreed to return just before sunrise to meet again with the elderly night watchman. In the early hours of the morning, as the sun was just about to make its way over the range, the night watchman pointed out, "There's Māui." Here is Mr. Cachola's account of that historical encounter:

It was one of those "wow" moments; we were awed by a gigantic silhouette of a huge giant of a man, sleeping. The silhouette was just awesome, all the way from Hālonā ridge where his forehead and mouth were clearly visible, through Pu'u Heleakalā which was his barrel chest and extended legs stretching all the way to Kahe. It was just a magnificent mountain of a man...sleeping, as the first sun rays broke the eastern horizon. Folks talk about the sleeping giant on Kaua'i is merely a small menehune when compared to Māui the giant...right here in Nānākuli. Black and I just stared and stared and didn't say a word...we were simply dumb struck...more so because both of us had never ever heard of Māui the sleeping giant, or seen it before, even though Black lived there all of his life and I was in the area for almost 15 years. And Māui...the most popular and famous legendary hero in all of Polynesia. If Black and I did not go to look for it, and talk to this kupuna watchman, maybe this whole story about Māui... the sleeping giant at Nānākuli might have been lost forever. And I have certainly told and shown Māui to many, many, students and adults over the years. It really is an awe-inspiring sight.⁵⁷

The interview with Fred Cachola provides further credibility to the accounts of Māui, the famed hero in the Wai'anae district.

⁵⁵ Ibid, 62.

⁵⁶ McGuire and Hammatt, *Cultural Impact Assessment for the Farrington Highway*, 74.

⁵⁷ McGuire and Hammatt, *Cultural Impact Assessment*, 74-75.



Figure 6: Outcropping known as Maui's Rock.
Source: Author

Ka'opulupulu High Chief

Mo'olelo tells of Kahahana, an O'ahu high chief who was warned by his high priest Ka'opulupulu to stop his unethical ambitions. Kahahana rebelled against this advice, and Ka'opulupulu decided to tattoo his lower knees as a sign of his disapproval of the chief.

Kahahana dug up bones from their burial places "to make arrows for rat-shooting and hooks for fishing". The bones of the chiefs were bartered for skirts for chiefesses and handles for kāhili. Ka'opulupulu pleaded with him in vain to stop this disrespectful deed, but Kahahana turned a deaf ear to Ka'opulupulu's pleas. As a sign of protest, Ka'opulupulu, his followers, relatives and members of his household all tattooed their knees to signify Kahahana's unwillingness to listen to his advice (kuli- knee, deaf).⁵⁸

This mo'olelo is found in the Nānākuli section in *Sites of Oahu* by Sterling and Summers. Although other mo'olelo place Ka'opulupulu as a resident in other areas of O'ahu, as he was the high priest of O'ahu it was common for those of chiefly stock to reside in more than one area.

⁵⁸ Kamakau and Pukui, *Tales and Traditions*, 133.

Sterling and Summers Sites of O‘ahu

A further explanation of the name Nānākuli is reprinted from Thrum’s Hawaiian Annual, in Sterling and Summers’ *Sites of O‘ahu*: "The name of “Nānākuli”, a section of Wai‘anae, meaning “knee examination”, is said to relate to an incident in the travels of the famous Kualī‘i, when his attendants wished to see and press his knees, to relieve the king’s fatigue after the journey."⁵⁹

Wm. Z. H. Olepau Nānākuli Resident

Another variation of the naming of Nānākuli is found in a story provided by an old time resident of the Ahupua‘a, Wm. Z. H. Olepau, who shared his manao (knowledge) on March 20, 1933:

"There were two women who went up the hill of Pu‘u Hakila or Pu‘u Hela to dry their Kapas [tapa cloth]. While the kapas were being dried they left and went down the hill to the pool for some water. They heard dogs barking, so they stood, looking around for the barking was deafening."⁶⁰

Archeological Work in Nānākuli Valley

The first archaeological studies done in the Nānākuli Valley were conducted by J. Gilbert McAllister in the 1920s. McAllister was part of an island-wide survey to list and describe archeological sites of O‘ahu. All work focused on ancient sites pertaining to religion, habitation, and ancient mo‘olelo. Surveying the Nānākuli Valley, McAllister recorded a site known as the ‘Ilihune heiau’ located on the southeastern slopes of the Pu‘u Heleakalā Mountain. The ‘Ilihune heiau had few structural remains at the time McAllister surveyed the area, and was used as a cattle pen.⁶¹

⁵⁹ Sterling and Summers, *Sites of O‘ahu*, 62.

⁶⁰ Ibid, 62.

⁶¹ Ibid, 62.

Nānākuli Valley would not see another cultural study until one conducted in the 1940s by E.S.C. Handy as part of an island-wide ethnographic agricultural survey. Handy discovered structures of habitation high in the Valley's head, such as stone platforms, paving stones, and abandoned terraces.⁶² In conclusion, Handy stated that most identifiable sites were located in the upper Valley where streams and soil layers were more promising, allowing for permanent habitations.⁶³

Nānākuli subsequently experienced very little archaeological work before 1988, when a 3 year project was conducted by the State Historic Preservation Division to survey the upper Valley floor. This work focused on the undeveloped land owned by the Department of Hawaiian Home Lands (DHHL). The lands surveyed included (1) lands in the lower Valley along the Nānākuli Stream, up and over the 'Ewa side ridge, and (2) the upper Valley floor starting from the last residential homes of the DHHL and going back to the Honouliuli Forest Reserve line.⁶⁴

Prior to this survey, the common belief was that the area lacked sustenance, only allowing habitation along its sandy shores. However, the archaeological work done in the upper Valley from 1988-1991, revealed a slightly different picture.⁶⁵ According to Archeologist Ross Cordy, land between the east and west branches of the Nānākuli Stream were covered with the ruins of agricultural fields.⁶⁶ The ruins provided evidence that the entire upper Valley floor, along with its sides, caught water runs-off and created pockets of water for agricultural use.⁶⁷

In addition to these agricultural fields, the survey recorded other remnants of large enclosures, permanent and temporary house sites, as well as field and work shelters. A

62 Ibid, 62.

63 E.S.C. Handy, *The Hawaiian Planter*. Bishop Museum Bulletin, 161. Honolulu, Hawaii: Bishop Museum Bulletin 1940, 83.

64 Cordy, *An Ancient History of Wai'anae*, 82.

65 Cordy, Ross H. *An Ancient History of Wai'anae*, 80.

66 Ibid, 82.

67 Chiogioji, McDermott, McGuire, Nānākuli VI Elementary School, 35.

total of 26 permanent habitation sites were identified in the upper portion of Nānākuli Valley as seen in figure 7. Only two possible religious sites were identified: one small shrine and one large structure interpreted to be a possible heiau.⁶⁸ These sites are thought to be excellent examples of the typical structural or religious sites found in the Wai‘anae district in ancient times, and may reflect broad patterns of development settlements in the Valley land agricultural system.⁶⁹ Studies conducted by Cordy and others suggest early life began along its coastal shore and high in its upper Valley floor.⁷⁰ If correct, this provides credibility for a more positive association with its name, rather than the negative stereotype that exists today.

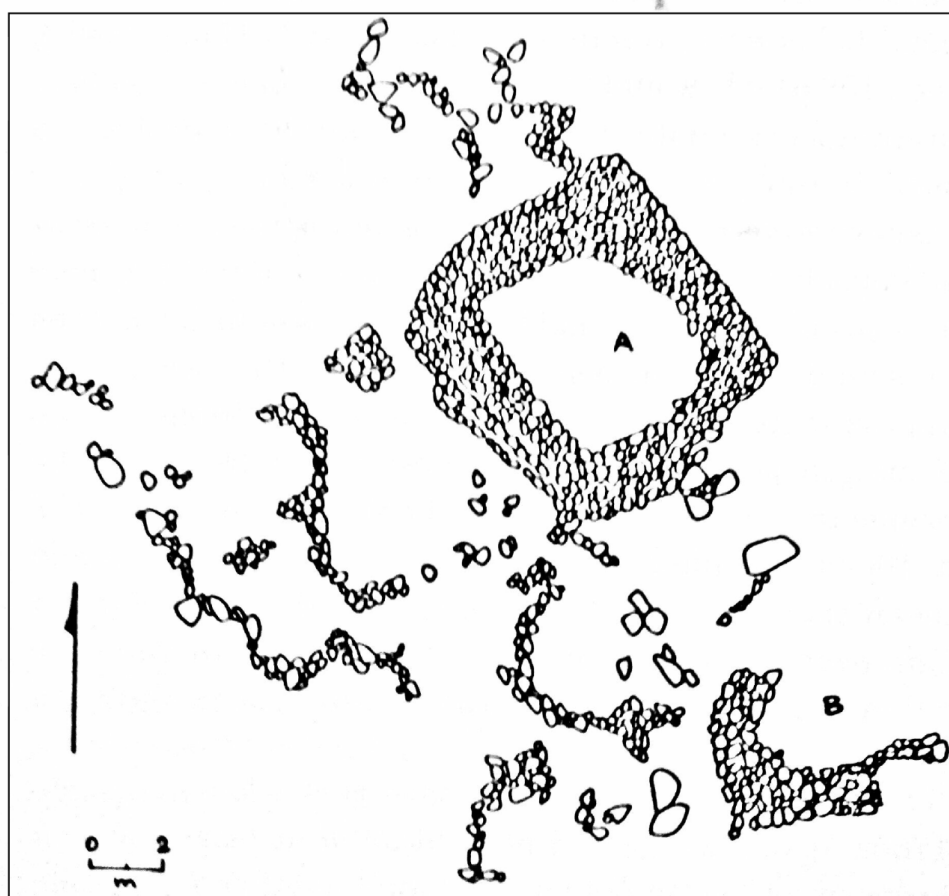


Figure 7: Heiau structures in Upper Nānākuli Valley, site 4211 (Cordy 2002:85). Rectangular enclosure "A" is a shrine. Site 4211 is part of other permanent structures in the upper Valley.
Source: Cordy, Ross H. "Settlements in Nānākuli" *An Ancient History of Wai‘anae*, (2002): Figure 20, 85.

⁶⁸ Ibid, 34.

⁶⁹ Park and Cordy, 1990 Survey, 6.

⁷⁰ Cordy, *An Ancient History of Wai‘anae*, 82.

Summary

Despite centuries of being isolated and displaced by ruling classes, foreigners, and the military, the natives of the Wai‘anae moku are still resilient and proud in the 21st century. Displacements led to disconnection from their ancestors, causing difficulty for the people of Wai‘anae in identifying themselves within the history of Hawai‘i. Several hundred years ago these natives lived a lifestyle which not only relied on marine life, but land resources such as kalo (taro), ‘ulu (breadfruit), and ‘uala (sweet potato) – all famed staples for sustenance in the traditional Hawaiian culture. In times of radical change, natives on the Wai‘anae Coast witnessed the dismantling of the traditional Hawaiian landscape of fruitfulness, an alteration to one of drought and barrenness.

Through the various waves of newcomers, the Nānākuli community forgot the cultural identity associated with famed mo‘olelo and oli of the area. In particular, the mo‘olelo of the hero Maui, that of Ka‘opulupulu the High Priest of O‘ahu, and of permanent settlement structures high within the upper Valley floor. These mo‘olelo tell a quite different story of the Valley people who are said to be "deaf and dumb".

Conclusion

This chapter has outlined traditional oral practices and terminology of the ancient people of the Wai‘anae district, as well as highlighting the importance of recovering the forgotten identities of the people of this region. This research will inform the initial process for a new school in the ahupua‘a of Nānākuli. Firstly, investigations have led the author to focus on a renewed cultural identity, linking the community back to their ancestors. Second, such identity has led to the site placement and planning for a hybrid educational model.

Later chapters will provide further information on the selected site, which is located in the undeveloped upper Valley on Hawaiian Home Land. This site has been

chosen due to its relationship to several culturally charged elements which will be discussed in depth in chapter 7. The use of this cultural knowledge and background will manifest itself through a design process which will develop and guide the conceptual master plan, placing the school "high" and "above all" in the upper Valley of Nānākuli.

As the identity of the community is most commonly associated with the knee, the utilization of a conceptual diagram (see figure 19) will indicate how each chapter informs the design process of developing a conceptual master plan, incorporating both a contemporary and traditional mindset. In terms of the conceptual diagram referred to above, this chapter will be associated with the major bone components which make up the human leg, and further discussed in Chapter 6: Research Synopsis.

Chapter 2: Culturally Relevant Learning

Introduction

Contemporary education and learning methods both in Hawai‘i and around the world differ from those of traditional Hawai‘i. The purpose of this chapter in the investigation is to provide a better understanding of traditional learning methods prior to the arrival of western influences, with a focus on the kūpuna (elders) who played an important role as educators. This chapter will outline the research of Ms. Mary Kawena Pukui, a Hawaiian cultural historian, who described learning methods taking place during the last days of the Hawaiian Monarchy. This understanding will inform how traditional aspects of learning may potentially be incorporated into current teaching methods today.

This chapter will also compare and contrast new learning methods with both previous and current educational methodologies. The new types of learning that will be discussed are place-based learning, project-based learning, and cultural-based education. These new learning methods that are currently being applied in the 21st century actually reflect many aspects of traditional learning methods, and this will be discussed later in this project via case studies.

The overall goal of this chapter is to illustrate how education in Hawai‘i has changed over time. The following questions will be answered:

- 1) What do we know about traditional learning methods?
- 2) How did western contact affect traditional methods of education?
- 3) How can traditional methods of learning be incorporated back into the current educational system?

Once we understand how the educational system has changed over time, we can analyze these changes in the context of current academic settings, in order to develop a better

learning environment for today's understudies. This author is not an expert in education. However, through the analysis of various learning methods a new hybrid model of education for the contemporary environment will be presented.

Traditional Learning

Nana I ke Kumu (Look to the Source) is a book written by Ms. Mary Kawena Pukui and paints a vivid picture of education in ancient Hawai'i. Ms. Pukui provides accounts of youth being raised in the time period immediately before Western contact as well as in the western-influenced educational transitions that subsequently appeared.

Ms. Mary Pukui, writes "ho'omaka mai konohi mai"(begin with the beginning), or "ha hua o ka pū'ao" (with the seed in the womb).⁷¹ Prior to birth, several hō'ailona (omens) were carefully observed, prophesying who or what a child was destined for in life. Pre-determined professions enabled the child to be raised in and around skills and knowledge mastered and passed down for hundreds of years.⁷²

In traditional practice, it was common for the hiapo (first male child) to be promised to and cared for by the grandparents. This cultural practice nurtured the child's growth under the kūpuna (grandparents') wisdom, care, and knowledge – as well as facilitating the passing on of family traditions and secrets.⁷³ Although the hiapo was hani'd (permanently given) to the grandparents, it did not necessarily mean total isolation from the maternal parents. The placing of a child in the care of their grandparents solidified the kūpuna role as teachers in a traditional Hawaiian society.

⁷¹ Pukui, Mary Kawena, E. W. Haertig, and Cathine A. Lee. *Nānā I Ke Kumu = Look to the Source*. Vol. II. Honolulu: Hui Hanai, 1972, 1.

⁷² Pukui, Haertig, and Lee, *Nānā I Ke Kumu*, 1.

⁷³ Linda K. Menton, "Everything That is Lovely and of Good Report": The Hawaiian Chiefs' Children's School 1839-1850, (Doctorates diss., University of Hawai'i, 1982).

The knowledge of the kūpuna wasn't hindered by island resources on the small chain of islands. Knowledge generated from the 'āina (land) and its elements became referred to as 'Ike pāpālua (second sight), and were possessed only by the kūpuna. 'Ike pāpālua evolves through a deep spiritual connection between 'āina (land), kanaka (person), and Akua (gods).⁷⁴

In the Hawaiian home it was a custom for a child to never interrupt the elders during learning activities. The youth had to wait until the lesson was completed, and then wait for permission of the elders to speak. Only then was the child permitted to talk or nīnau (ask questions).⁷⁵

"Nānā ka maka, Ho'olohe. Pa'a ka waha. Ho'opili."
"Observe, listen. Keep the mouth shut. Imitate."⁷⁶

This concept of learning was embedded throughout the learning process of a young Hawaiian. Youth were immersed in this method of watching and listening (therefore learning, prior to action). Hawaiian children were fostered in an environment of observing, rather than one of doing.⁷⁷

In traditional times it's important to note that education was measured by a child's strengths and performance in finishing a particular task, and they were closely monitored by a kūpuna (elder). Elders mastered daily lessons over decades of observation. If youth were to master any particular skill, observing and listening became vital.⁷⁸

In traditional times education was practical, skill-oriented, socially useful, and in tune with reality. It was also environmentally aware, conservation cognizant, and based

⁷⁴ Pukui, Haertig, and Lee, *Nānā I Ke Kumu*, 268.

⁷⁵ Pukui, Haertig, and Lee, *Nānā I Ke Kumu*, 48.

⁷⁶ Ibid, 48.

⁷⁷ Ibid, 48.

⁷⁸ Ibid, 49.

on learning by observing, rather than doing.⁷⁹ Education and knowledge presented to youth in traditional times were a part of their daily lives, becoming useful while at the same time, intriguing and relevant. In order for advancement to take place and a new task to be given, the observation by kūpuna was focused on skill and interest level rather than lettered grades.⁸⁰

In a traditional Hawaiian educational setting kūpuna (elders) recognized unfortunate learners and provided a system which fostered them to grow and prosper at their own achievement levels. These kūpuna recognized learning was not based on literacy, but several learning senses such as memorization, fragile observation, and constant practice.⁸¹ This was especially the case with learning cultural practices such as oli (chants) telling of genealogies, winds, rain and plants. All information provided was highly relevant to one's surroundings, and developed into their second sight.

The concept of the relationship with 'āina became vital to early Hawaiians. The translation of this word not only referred to land, but in the traditional context as one which feeds. Any lack of 'āina would effectively mean there was no sustenance for Hawaiians residing on such a small chain of islands.

Western Induced Learning

Missionaries arrived on the shores of Hawai'i in 1820 (after the death of Hawai'i's profound leader and last kapu chief, Kamehameha I) and witnessed a people who had slipped away from their kapu (traditional beliefs system). This was a system that had

⁷⁹ Marion Kelly. Some thoughts on education in traditional Hawaiian society. *In To Teach the Children Historical as of Education in Hawai'i*. (College of Education. University of Hawai'i and Bernice Pauahi Bishop Museum. Honolulu, HI: 1982), 13.

⁸⁰ Pukui, Mary Kawena, E. W. Haertig, and Catherine Lee. *Nānā I Ke Kumu = Look to the Source*. Vol. I (Hui Hanai, an auxiliary of Queen Lili'okalani Childres's Center: Honolulu, HI, 1972), 49-52.

⁸¹ Chun, Malcolm Na. *No Nā Mamo Traditional and Contemporary Hawaiian Beliefs and Practices*. Honolulu: University of Hawai'i Press, 2011.

grounded them in culture for hundreds of years. The situation presented missionaries the perfect opportunity to implement new beliefs within the Hawaiian Islands- one rooted in education and the Christian religion. This new methodology of learning, in theory, would ‘civilize’ the people of Hawai‘i. The three reasons hindering the subsequent learning abilities of Hawaiians were:

- 1) Educating the Hawaiian people in the English language, rather than in Hawaiian.
- 2) The restriction placed upon practicing traditional beliefs and languages, and
- 3) The missionaries failing to realize that Hawaiians were proficient at memorization, a skill set that had been passed down from generation to generation.⁸²

Hawaiians were taught the rote method of learning. In this system, students must read aloud and repeat letters in unity to memorize the content.⁸³ Understudies who were able to learn at accelerated rates were given a reward by missionary teachers, and advanced onto higher levels of learning - and in several cases, promoted to teach. These same understudies probably would not have been so ‘accelerated’ under the watchful eye of their kūpuna. The newly implemented style of learning contradicted the traditional learning method of mastering one skill, then moving on to the next. Instead, the missionaries’ methods measured how quickly a child could memorize, rather than mastering a particular skill.

Learning in the rote method became the first step in changing the learning methodologies of traditional Hawai‘i. Soon after, Hawaiian education transitioned to another western methodology - a system of grading. These foreign methods of learning further distanced the keiki from the knowledge and traditional practices of their teachers, the kūpuna. Although the kūpuna may have felt uncomfortable with these new methods,

⁸² Ibid, 25.

⁸³ Francine Pallama, *"Hawaiian Architecture: Developing Responsible Stewards of Our Land"*, School of Architecture University of Hawaii, 2012, 71.

they understood life in the islands had undoubtedly changed, and wanted their youth to be afforded the opportunity of success in a foreign system.

The first missionary schools within the islands were primitive huts, only equipped with seating mats. Instruction was held in the afternoons for only two hours. The main curriculum consisted of reading, writing, and spelling. Other subjects were later added to the curriculum such as history, music, geography - all superseded by religion.⁸⁴

Natives who showed progress in these new schools were promoted to teachers, instructing their peers. Although native teachers had advanced quickly within the western style of learning, their advancement had come without the mastering of necessary skill sets and abilities. Lacking these attributes developed Hawaiian teachers into unqualified instructors. Education began to fail within the islands.

Formal Schools

The Hawaiian elite at the time recognized that their traditional practices would not suffice in a western world, and hoped the new schools would guide young pupils in new ways to solidify them as great future leaders. During the time of missionary influence, two schools systems emerged:

- (1) common schools administered by the natives under the supervision of the missionaries, using primarily Hawaiian language, and
- (2) select schools under direct missionary control implementing both Hawaiian and English language curricula.⁸⁵

As the western method of teaching in Hawai'i slowly diminished the missionaries urged a change to the teaching of teachers, determining that a teacher training institution needed to be built. Lahainaluna School became this western institution, and opened its doors in

⁸⁴ Ibid, 26.

⁸⁵ Ibid, 30-31.

September of 1831. This institution housed 25 male students, several who already had become teachers or spouses. Under the supervision of missionary Lorrin Andrews, these native Hawaiians studied western courses of arithmetic, reading, writing, and geography. The newly built school and learning system developed these young understudies into several of the Hawaiian kingdom's future teachers, civil servants, and ministers.⁸⁶ All participants attended the institution on their own free will in the hope of becoming well-equipped instructors for Hawai'i's future youth.

Although, the Lahaina institution was successful on many levels, in June 1839 Kamehameha III asked the missionaries to establish a formal system of education for the royal children of Hawai'i. Subsequently, Mr. Amos Starr Cooke and his wife Juliette Montague Cooke were appointed as the instructors at this school. Their advisors were Dr. Judd - who had prior experience watching over some of the royal families and Mr. John 'I'i, who is revered as a Hawaiian cultural historian.⁸⁷

Attendance began on June 12, 1838, with six royal children. The first class instruction took place in the Cooke's home, and classes remained there until April 11, 1840, when the school building was completed. Initially, eleven royal charges were enrolled in the school as boarders. Over the next several years this number increased to sixteen. This school is therefore where the royal family grew and became educated together on the matters pertaining to Hawai'i's future, according to what the Cooke's saw fit.⁸⁸ Instruction provided in the Royal School (also known as The Chiefs' Children's School) displaced the last royals from their traditional practices and beliefs which they had become accustomed to as young children and adolescents. They were schooled in foreign methods and beliefs of education and Christianity.

This school was the last formal attempt to Christianize and 'civilize' the Hawaiian people, with several goals found in the following passage:

⁸⁶ Ibid, 29.

⁸⁷ Ibid, 39.

⁸⁸ Ibid, 39.

"...it is the great object to train the hearts of these children: to teach them correct, moral and religion of the bible, without any regard to sectarian peculiarities. It is the earnest desire of the leaders that the children of the chiefs committed to their care should 'seek first the kingdom of God and his righteousness,' imbibe the spirit of the gospel and avoid sin in all its forms, that they may eventually be qualified to take the lead of a civilized and Christian nation."⁸⁹

The intent of the Royal School was to educate these young royals in governmental politics and the ruling of the Hawaiian nation in the hope they would become Christian and educated rulers.

Chiefs and chiefesses who lived through the ending of traditional times and into the beginning of this western period had hoped for a better outcome for their royal charges. Life in the islands no longer followed the traditional ways of society, it had become one predicated on a foreign system and provided no recognition of chiefly lineage. The last royals were therefore in need of being educated to sustain the survival of their people in an ever-changing world.

Contemporary Education

Traditional and contemporary learning methods differ as children start formal education in preschool at 3-4 years of age. Contemporary learning systems may not be focused on a specific skill set or profession, but rather providing general standards of learning. Contemporary school curricula have become broad based systems, built around the standards of college test and entry courses. The issue with this system is that not every student learns and advances at the same rate.

⁸⁹ Family School for the Children of the Chiefs, Polynesian, 1980, 14.
Linda K. Menton, "Everything That is Lovely and of Good Report": The Hawaiian Chiefs' Children's School 1839-1850, (Doctorates diss., University of Hawai'i, 1982).

Analyzing present educational systems, one may find understudies being taught with the same curriculum and standards. This weans out many who are unable to keep up with progress. In this type of learning environment many understudies lose interest in learning; feeling left out or discouraged because of their learning abilities or lack of personal interest.

With this in mind, Ken Robinson (English author, speaker, and international advisor on education in government, non-profit, education and art bodies), suggests public education developed out of the needs of the Industrial Revolution, with no public education occurring prior to the 19th century. Mr. Robinson states the development of the education system was predicated on two ideas. First, the most useful subjects in the work place were the most valuable, and must be taught. Robinson explains this through the benign information drilled into understudies discouraging them from subjects and interest in creativity - with the belief there is no place for it in the workforce. Second, was the standard of academic ability. Universities designed the current education system in their image, and according to entry level courses. This image is based on the common belief that with a degree one is educated, and qualified for employment. Mr. Robinson concludes that as a result many highly talented, creative, and brilliant people believe they lack the knowledge, ability, and skill sets to advance into college.⁹⁰

Current education systems kill the creativity in unique individuals, their interest, and skill sets. The goal is standardized exams and individuals according to what society believes an educated individual should be. In part, this neglects the one thing which defines people as unique individuals or groups, that being culture. Not so much in regards to ancient culture, but to the cultures of today, which are ever-adapting.

Schools of the 21st century must move from a “one size fits all” system dedicated to colleges, to accommodate those who do not fit within this parameter. The recognition

⁹⁰ Do Schools Kill Creativity, YouTube video, 11:00. Posted by Ken Robinson, TED Talks. Accessed December 04, 2015, <https://www.youtube.com/watch?v=iG9CE55wbY>

of various learners who may succeed via other methods of learning and curricula will become an important factor in helping youth to progress. The development of a hybrid learning system rooted in project and place-based curricula, relevant and applicable to real world problems; that is also culturally-informed and sensitive to place, is necessary.

21st Century Learning Styles

This fact is evident: learning in Hawai'i has moved drastically away from traditional methodologies. Understudies are no longer practicing the art of observing then doing, or the act of accomplishing one task before moving on to the next. Learning has veered away from place, local heritage, landscapes, and community. Case study research (discussed later within this thesis) suggests styles which reflect traditional learning methods can be successfully applied in current academic systems. These methodologies are place-based, project-based, and cultural-based learning. These three learning methods for the most part are inclusive, catering for all learners and abilities.

Placed-based learning immerses understudies in local heritage, cultures, landscapes, opportunities and experiences, using these as a foundation for the study of language arts, mathematics, social studies, science and other subjects across the curriculum.⁹¹ In these circumstances, place-based learning works to capture the strong association people tend to develop towards their communities. This enables an individual to reach cultural and environmental awareness via providing a wide spectrum of stewardships, objectives in conservation, and community.⁹² Place-based learning stimulates education which heavily incorporates an individual's environment. By doing so, today's understudies can become more culturally aware of their natural environment.

Mr. Ken Robinson argues that we as humans must re-think are view of intelligence, describing it with three characteristics: diverse, dynamic, and distinct. "Diverse" he describes as the way humans think about the world, and in all the ways they

⁹¹ Shawn Kana'iaupuni, Brandon Ledward, 'Umi Jensen, Culture-Based Education and Its Relationship to Student Outcomes, 2010, 3.

⁹² William G. Demmert, Jr., What is Culture-Based Education? Understanding Pedagogy and Curriculum.

experience it; such as sound, visualization, abstractness, movement, and kinesthetics.⁹³ Place-based learning facilitates diverse intelligence by placing understudies within environmental settings allowing them to learn in all the ways in which they experience the world.

Project-based learning allows understudies to work within teams to explore topics in authentic ways and the opportunity to create presentations to share and apply what has been learned. This results in deeper knowledge of subject matter, increased self-direction and motivation, and improved research and problem-solving skills.⁹⁴ Combining project-based learning with local heritage, cultures, and landscapes not only provides a deep and rich method of academic learning, but more importantly, it connects understudies with their distinct cultural heritage as islanders. It also encourages social growth amongst peers and mentors, providing interaction opportunities amongst groups both inside and outside of the classroom, and amongst a variety of learning abilities and skills sets. Place-based learning takes this a step further, by involving students in projects directly related to their communities. Both project-based and problem-based methods are frequently employed in place-based learning, helping to further develop understudies via all learning vehicles.⁹⁵ For example, Kanu o ka 'aina public charter school on the island of Hawai'i permits understudies to select areas close and dear to their hearts, in a two year study project. This enables their youth to engage with others in relevant learning, sparking an eagerness to learn and facilitating self-directed learning.

Cultural-based education (CBE) embeds high quality instructional practices within culturally and linguistically relevant contexts. CBE extends beyond incorporating language and culture as special projects, it is a systematic approach of fully incorporating

⁹³ Do Schools Kill Creativity, YouTube video, 13:00. Posted by Ken Robinson, TED Talks. Accessed December 04, 2015, <https://www.youtube.com/watch?v=iG9CE55wbY>

⁹⁴ Delia Clark, Learning to Make Choices for the Future, Connecting Public Lands, Schools, and Communities Through Place-based Learning and Civic Engagement, (The Center for Placed-based Learning and Community Engagement, A Forest For Every Classroom 2008), 3.

⁹⁵ Delia, Learning to Make Choices, 3.

and integrating specific cultural ways of thinking, learning, and problem-solving into educational practice.⁹⁶

Harvard Professor Jerome Bruner notes, “Culture shapes mind...it provides us with the tool kit by which we construct not only our worlds, but our very conceptions of ourselves and our powers.” He further states that “you cannot understand mental activity unless you take into account the cultural setting and its resources, the very things that give mind its shape and scope.”⁹⁷ In other words, Professor Jerome suggests learning cannot exist fully without taking into account the sensitivity of culture and the resources it provides. Culture-based education perpetuates the "shaping of minds" of its understudies, constructing learning environments which understudies occupy to ground themselves within both culture and academia. This helps individual learners to develop their identity and leads to their empowerment as productive learners.

Comparison of Learning Methods

Culture, place, and project-based education implemented within 21st century school curricula demonstrate why and how culture is relevant in learning. It is necessary for islander understudies to be informed of cultural environments and resources before real learning can be achieved. Research conducted and published in an article in 2010, *Culture-Based Education and its Relationship to Student Outcomes*, stated that culture-based education reform has been an organic solution to the sobering negative statistics that are damagingly associated with native Hawaiian children: high rates of poverty, substance abuse, juvenile deviance and criminal activity, teenage pregnancies, poor educational outcomes, domestic abuse, depression, and suicide.⁹⁸ The lack of cultural

⁹⁶ NIEA In Brief, "Using Culturally Based education to Increase Academic Achievement and Graduation Rates", 1. www.NIEA.org.

⁹⁷ William G. Demmert, Jr., What is Culture-Based Education? Understanding Pedagogy and Curriculum, 1.

⁹⁸ Shawn Kana'iaupuni, Brandon Ledward, 'Umi Jensen, Culture-Based Education and Its Relationship to Student Outcomes, 2010, 3.

connection, awareness, and knowledge may hinder some (but not all) understudies from progressing in academic settings and in life.

In several instances, understudies may perceive their contemporary learning to have no relevance to daily problems occurring in and around their community. However, in an academic setting that is immersed in culture, local heritage, and community, these same understudies may find reasons to become connected and find themselves eager to take charge of their learning. Within the community of Nānākuli there is a strong presence of pride and local heritage. This provides an opportunity that can be capitalized upon in an academic environment where community members, school staff, and understudies all work side-by-side regardless of academic ability, knowledge and age.

Summary

This chapter has demonstrated the importance of traditional learning methods prior to European contact, as well as subsequent factors that have led to the contemporary education context. Undoubtedly, learning has changed over time, especially with foreign instructors displacing the traditional teacher, the kūpuna. An understanding of this history will help the development of innovative contemporary education methods which cater for and recognize all learners within a variety of learning environments.

Project-based and place-based learning methods have become the new vehicles for understudies in the 21st century. Although these teaching methods are not always perfect, case studies in Chapter 5 will provide evidence of successful schools whose models of teaching are based upon these methods.

Conclusion

Successful learning methods found in case studies will provide evidence for the opportunity to create innovative learning environments that embed cultural values and guiding principles to facilitate ‘āina-induced learning. This will lead to the development of an educational model into the 21st century with real-world learning accompanied by traditional Hawaiian cultural and community learning and teaching.

Linking project and place-based methods of teaching with a new cultural identity into the educational master plan allows this chapter to be referenced as the tendons and ligaments of the human leg as seen in the figure 19 conceptual diagram, and further discussed in Chapter 6: Research Synopsis.

Chapter 3: Nānākuli Educational Background

Introduction

This chapter will analyze how Nānākuli's current High and Intermediate school (NHIS) system compares to other island and state-wide schools. Although there are several other educational institutions within this community, this research will focus on the High and Intermediate school system. The initial project focused on a middle school and its relevance to developing successful youths. However, some may argue that the development of a separate middle school could further disrupt youth learning as they transition in and out of a separate system. To counter this argument, the master planning of a public charter school housing grades k-12 as a more desirable environment of learning is proposed.

This chapter begins with a brief history of the NHIS, outlining it as a pillar within the community via sport. This is followed by an analysis of Department of Education comparative school statistics reports which provide a rationale for why the new hybrid model of schooling will benefit the community as a whole. Lastly, this chapter will briefly compare NHIS with the Ka Waihona o Ka Na'auao Charter School, the only public charter school in the area. This comparison will provide further evidence that a new culturally-based education model is necessary to enable understudies to learn from the environment in all ways that they experience it.

Although other social and financial factors are present and briefly mentioned in this chapter, the master planning of a new educational model aims to close the current gap in effectively preparing high school and college graduates for their future life.

School History

NHIS is currently situated in the two thirds in valley on a hillside. It was established in 1967, as a complete charter school and was formerly known as the Nānāikapono School. The old school housed grades from k-6 and 7-9, and was located where Ka Waihona o Ka Na'auao Charter School now stands (see figure 8). By 1972, Nānākuli High & Intermediate parted and made its way up the valley to its current hillside location at 89-980 Nānākuli Avenue. Its first class graduated in 1972.



Figure 8: Location of Old Nānāikapono School, currently known as Ka Waihona o Ka Na'auao Charter School.

Source: Author

The present NHIS campus is situated on 60 acres of Hawaiian Home Lands and it is currently the only school on the Leeward coast with both high and intermediate schools combined under a single administration (see figure 9). There are only three other public high schools on O‘ahu with a combined intermediate and high school: Kahuku High & Intermediate, Waialua High & Intermediate, and Kula Kaiapuni ‘O Ānuenue Hawaiian Immersion.



Figure 9: Current Nānākuli High and Intermediate Campus.
Source: Author

Heart of the Community

To many, NHIS is the focus of the community. In this Ahupua‘a, sport is an important aspect of communal life. With the help of extracurricular activities, understudy athletes and their families are eager to strive for success and pursue post-secondary education. Sport has rallied the valley together and become its heart, focusing the energy and pride of its young men and women. This pride is most vibrantly displayed every Friday night under the sporting lights where the community is most rooted, perpetuating the school’s motto: Kulia I Ka Nu’u (to seek the highest).

The NHIS has become a place of community gathering and social interaction. Sadly however, this is usually only after-hours and for sporting events. Although there is

very little opportunity for interaction between the community and understudies during these events, they spark the pride that lies deep within everyone.

The school has also become a place where many come to not only receive an education, but as an escape from the social hardships of everyday life outside of its campus. NHIS has become a second home to many of its vibrant and resilient young understudies, fostering change and opportunity. There is an opportunity for a more engaging educational and cultural environment to be developed accordingly.

It's important to mention that in the minds of the community the Ahupua'a of Nānākuli is not confined as it was in traditional times. Figure 10 illustrates that its boundaries stretch further west beyond Pu'u Heleakala, over into the Ahupua'a of Lualualei and ending at Pu'u o Hulu Kai (known as Ma'ili Point). To this end the author realized the community holds a wealth of pride and passion, but very little cultural knowledge and connection to their ancestors who resided within this Ahupua'a (district). This lack of knowledge and connection may stem from misinterpretations of its name and landscape, as well as the removal of cultural practices. In the opinion of some, though not all, this lack of knowledge and connection has hindered the growth and success of the community.

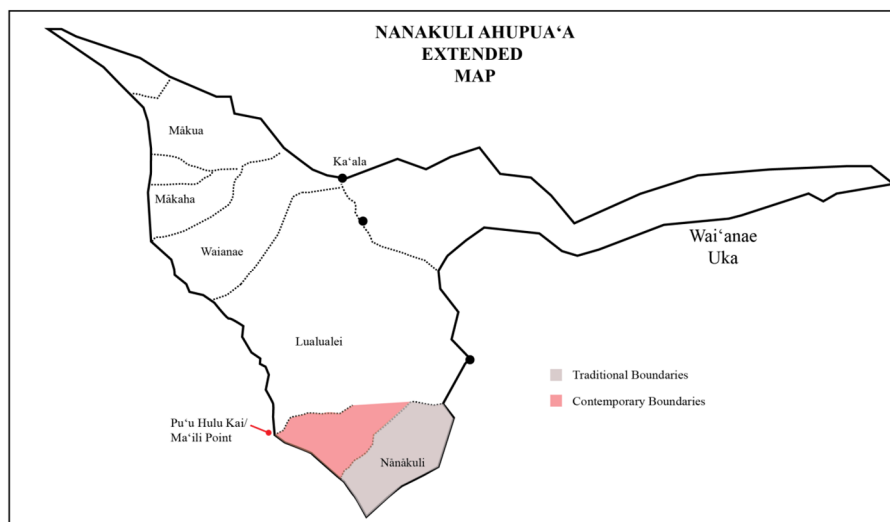


Figure 10: Boundaries of contemporary Nānākuli versus traditional times.
Source: Author

Although NHIS does compare favorably to other schools on the island or in the state in terms of education, it has become the main avenue for advancing a small portion of its youth on to post-secondary education and out of the hardships of the community. The majority of its understudies lack the essential skills sets and knowledge to effectively prepare them for a career or college.

The goal of relevant education rooted in cultural knowledge will help prepare both the youth and the community for the future. Cultural lessons of life and sustenance will eventually return back to the community.

Current Status and Report: Nānākuli High & Intermediate

Research question 1 of this thesis requires an analysis of the current school system and a comparison against other schools. The NHIS is categorized as a restructured school, but in recent years has fallen short of meeting the national benchmarks of the "No Child Left Behind" legislation. This legislation incorporates "an Adequate Yearly Progress (AYP) measuring school performance based mostly on one test, the Hawaii State Assessment (HSA) reading & math scores in grades 3-10."⁹⁹

The NHIS system focuses its attention on creating and nurturing relationships, along with developing a rigorous and stimulating learning curriculum that is closely aligned with the Department of Education's (DOE) new plan known as the Strive HI Performance System. The aim of this plan is to explore and create an environment that enables understudies to be prepared for life after school in the 21st century.¹⁰⁰

The Strive HI Performance Index measures school performance and progress via:

⁹⁹ School Status and Improvement Report. State of Hawaii Department of Education. January 9, 2015. Accessed March 10, 2015.

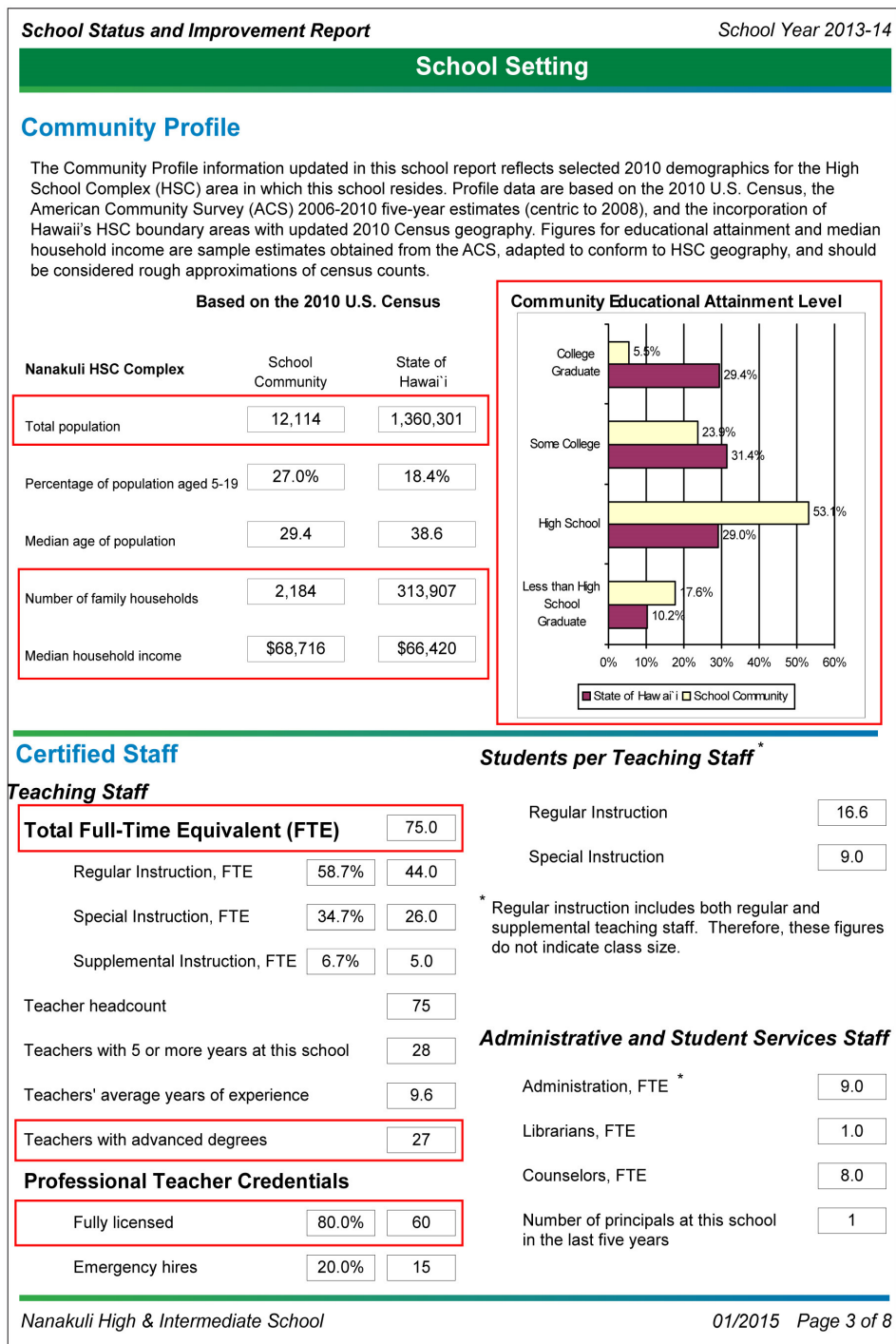
¹⁰⁰<https://www.hawaiipublicschools.org/DOE%20Forms/StriveHIIndexReports/StriveHIvsNCLB.pdf>

- Student achievement: HSA reading and math scores; as well as end-of-course science assessments.
- Readiness: rates of absenteeism; 8th and 11th grade ACT (American College Testing) scores in reading, English, math and science; high school graduation rates; and college enrollment.
- Achievement gap: reducing the gap between the achievement of “high-needs students” (those who have a disability, language barriers, or low family income) with those of other students.¹⁰¹

There are standards and strategies the DOE has implemented in recent years to help understudies graduate on time and be effectively prepared for college, or future life. The following tables are the School and Status Reports from the State of Hawai‘i Department of Education (DOE).

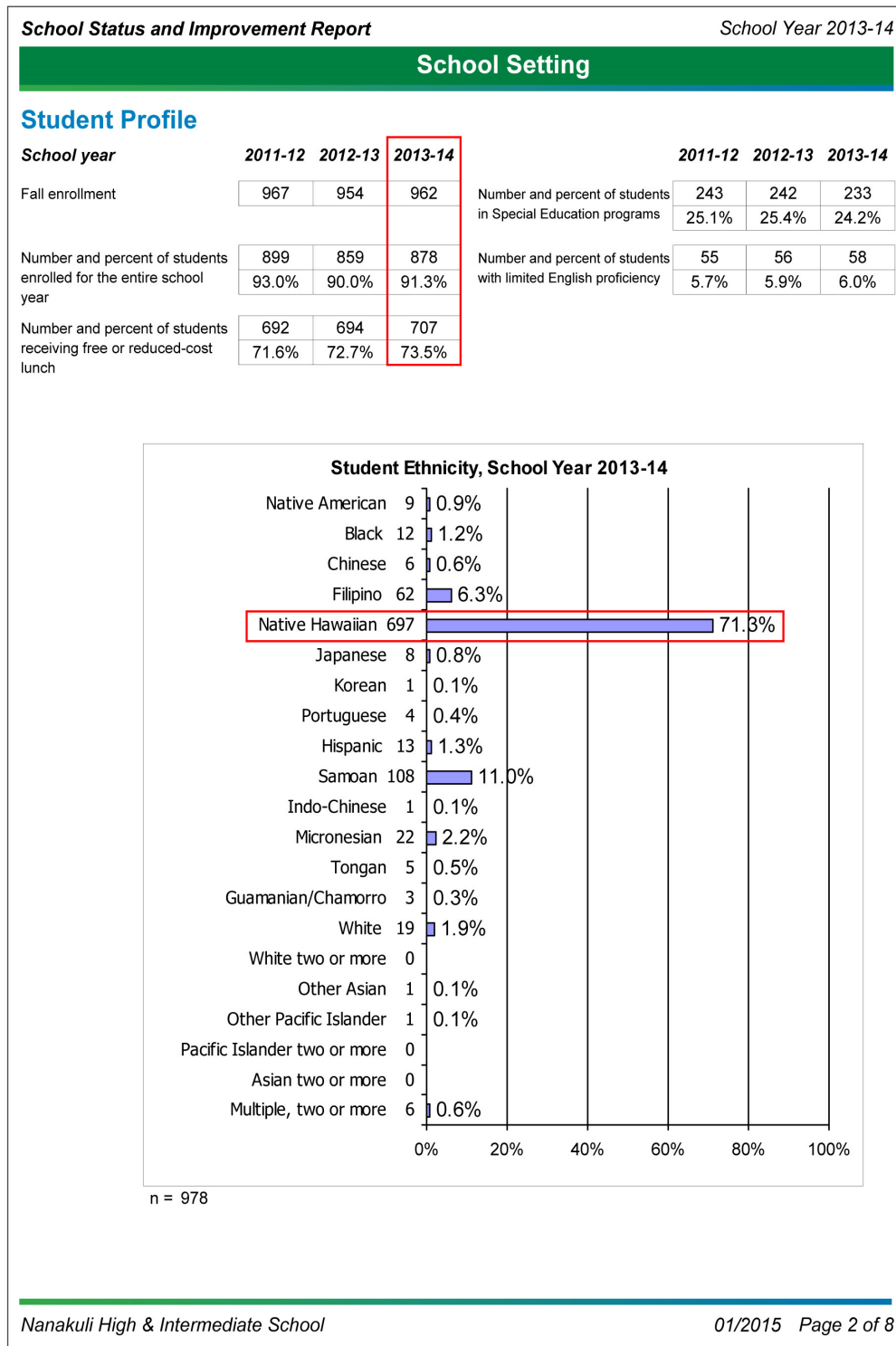
¹⁰¹ <https://www.hawaiipublicschools.org/DOE%20Forms/StriveHIIndexReports/StriveHIvsNCLB.pdf>

Table 2: Nānākuli High & Intermediate School Status and Improvement Report



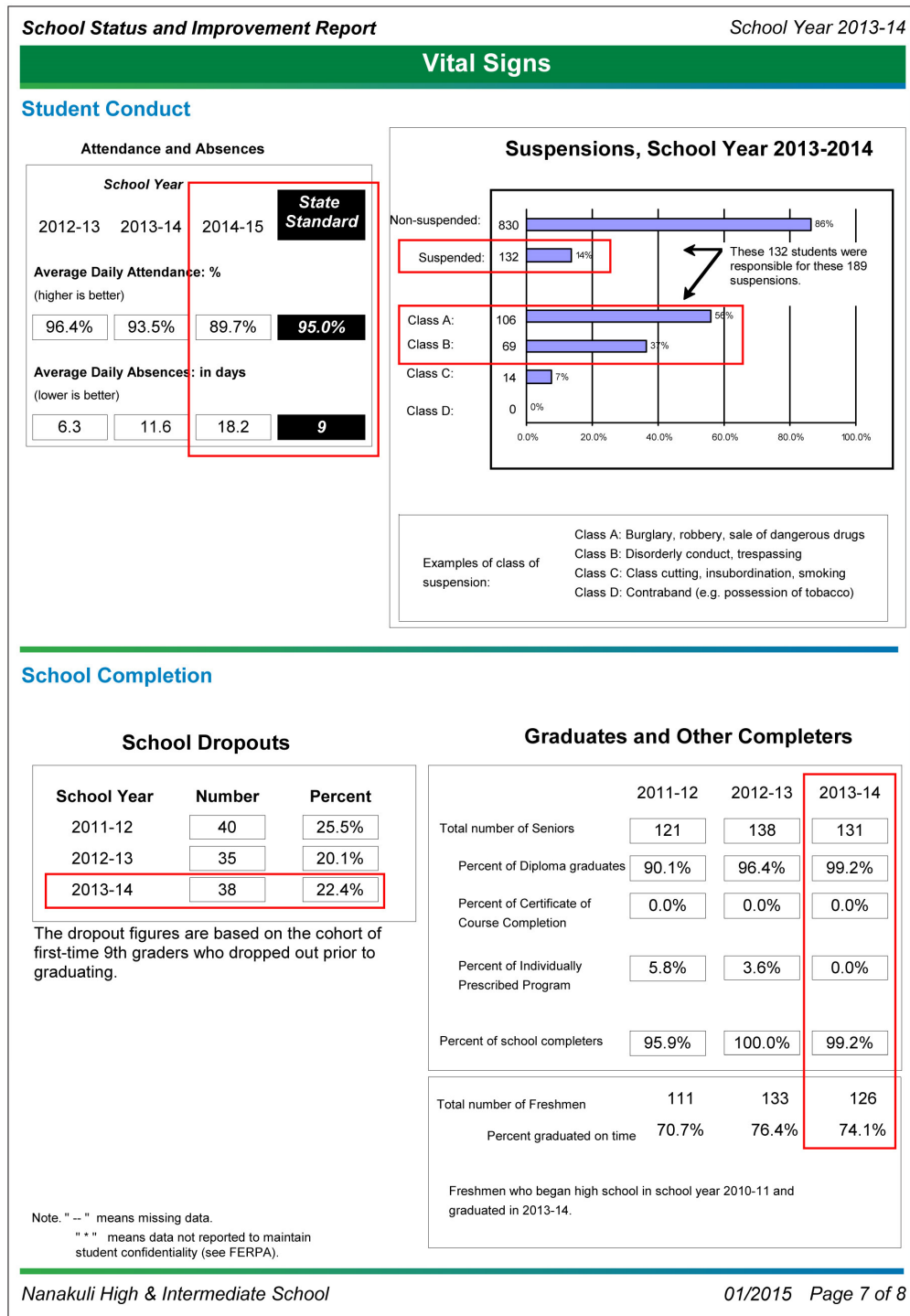
Source: "School Status and Improvement Report." State of Hawaii Department of Education. January 9, 2015. Accessed March 10, 2015. <http://arch.k12.hi.us/school/trends/2014/leeward.html>.

Table 3: Nānākuli High & Intermediate School Status and Improvement Report



Source: "School Status and Improvement Report." State of Hawaii Department of Education. January 9, 2015. Accessed March 10, 2015. <http://arch.k12.hi.us/school/trends/2014/leeward.html>.

Table 4: Nānākuli High & Intermediate School Status and Improvement Report



Source: "School Status and Improvement Report." State of Hawaii Department of Education. January 9, 2015. Accessed March 10, 2015. <http://arch.k12.hi.us/school/trends/2014/leeward.html>.

Table 5: Nānākuli Disadvantage Comparison Statewide

| | Enrollment* | Attended Preschool | Economically Disadvantaged | Special Education | ELL | Graduated on-time |
|--|-------------|-----------------------|-------------------------------|----------------------|--------|----------------------|
| ALL SCHOOLS | 185,273 | 4,362 | 94,315 | 17,741 | 13,501 | 81% |
| Department Schools | 175,476 | 4,362 | 89,408 | 16,978 | 13,257 | 82% |
| HONOLULU : 2 Complex Areas / 6 Complexes | | | | | | |
| Farrington | 8,000 | 44% | 73% | 8% | 22% | 71% |
| Kaiser | 4,001 | 87% | 16% | 8% | 3% | 90% |
| Kalani | 4,283 | 93% | 24% | 7% | 7% | 90% |
| Kaimuki | 4,487 | 60% | 60% | 11% | 18% | 68% |
| McKinley | 4,672 | 45% | 70% | 8% | 23% | 81% |
| Roosevelt | 6,061 | 68% | 40% | 8% | 5% | 80% |
| CENTRAL : 2 Complex Areas / 6 Complexes | | | | | | |
| Aiea | 4,188 | 78% | 48% | 10% | 6% | 90% |
| Moanalua | 5,200 | -- | 32% | 8% | 4% | 93% |
| Radford | 6,527 | 64% | 31% | 10% | 3% | 87% |
| Leilehua | 8,101 | 44% | 56% | 11% | 5% | 82% |
| Mililani | 8,069 | 74% | 20% | 9% | 1% | 92% |
| Waiialua | 1,411 | 50% | 53% | 10% | 4% | 89% |
| LEEWARD : 3 Complex Areas / 6 Complexes | | | | | | |
| Campbell | 10,844 | 49% | 46% | 7% | 5% | 83% |
| Kapolei | 6,570 | 57% | 41% | 9% | 3% | 81% |
| Nanakuli | 2,343 | 53% | 81% | 16% | 5% | 74% |
| Waiānae | 5,861 | 42% | 79% | 13% | 5% | 73% |
| Pearl City | 6,624 | 66% | 36% | 9% | 4% | 80% |
| Waipahu | 8,717 | 9% | 59% | 8% | 16% | 79% |
| WINDWARD : 2 Complex Areas / 4 Complexes | | | | | | |
| Castle | 4,810 | 76% | 50% | 13% | 2% | 77% |
| Kahuku | 3,552 | 58% | 54% | 10% | 3% | 89% |
| Kailua | 2,891 | 71% | 54% | 13% | 3% | 73% |
| Kalaheo | 3,936 | 76% | 32% | 10% | 2% | 87% |
| HAWAII: 3 Complex Areas / 10 Complexes | | | | | | |
| Hilo | 4,184 | 51% | 65% | 13% | 6% | 79% |
| Waiakea | 3,680 | 75% | 54% | 11% | 2% | 83% |
| Kau | 936 | 44% | 88% | 13% | 21% | 73% |
| Keaau | 2,761 | -- | 81% | 13% | 8% | 84% |
| Pahoa | 1,717 | 50% | 87% | 14% | 5% | 80% |
| Honokaa | 1,861 | 51% | 67% | 10% | 8% | 84% |
| Kealahou | 5,094 | 48% | 60% | 9% | 14% | 78% |
| Kohala | 867 | -- | 68% | 15% | 3% | 88% |
| Konawaena | 2,345 | 52% | 70% | 10% | 8% | 81% |
| MAUI: 2 Complex Areas / 7 Complexes | | | | | | |
| Baldwin | 4,480 | 44% | 50% | 8% | 6% | 87% |
| Kekaulike | 4,086 | 73% | 55% | 11% | 2% | 71% |
| Maui | 7,642 | 36% | 52% | 7% | 12% | 83% |
| Hana | 336 | -- | 82% | 14% | 0% | 82% |
| Lahainaluna | 3,228 | 47% | 52% | 9% | 18% | 85% |
| Lanai | 582 | -- | 41% | 17% | 13% | 97% |
| Molokai | 976 | 45% | 76% | 11% | 3% | 80% |
| KAUAI: 1 Complex Area / 3 Complexes | | | | | | |
| Kapaa | 3,204 | -- | 53% | 10% | 4% | 88% |
| Kauai | 3,959 | 62% | 47% | 8% | 6% | 85% |
| Waimea | 2,342 | 59% | 53% | 9% | 6% | 90% |
| SPECIAL | | | | | | |
| Hawaii School for D | 48 | -- | 71% | 100% | 35% | 0% |
| Charter Schools | 9,797 | na | 4,907 | 763 | 244 | 68% |

* Based on the Fall 2013 Official Enrollment Count.

na = Not reportable due to small sample size.

-- = Missing or unavailable data

Source: 2014 Superintendents' Annual Report, Office of the Superintendent, 25th Annual Report, last modified June 2015. http://arch.k12.hi.us/state/superintendent_report/ssar2014.html

Comparison of School Statistics

Comparing NHIS's current statistics and academic progress to those of other schools in the state provides insights on how or why some schools progress further than others. These statistics can be viewed in many facets and raise questions about the current state of schooling. The charts in the tables are from the 2013-2014 academic year and illustrate several factors: community and student profiles, certified staff numbers, students per staff ratios, student conduct information, and yearly completion and graduation rates.

Community Profile

Analyzing the community as a whole reveals key patterns indicating why NHIS may be in its current state. The Nānākuli community has a total population of 12,114 made up of 2,184 households. Median household income is \$68,716, slightly above the state average. This raises an important question: if the community has a median income slightly above the state average, why are comparatively fewer students progressing to college?

Only 5.5% of NHIS students graduate from college, compared to the state average of 29. These percentages are in stark contrast to high school graduation rates. NHIS has a high school graduation rate of 53%, well over the state average of 29%. NHIS's School Status and Improvement Report also states that 23% of the Nānākuli community have some college experience. A combined analysis of all of these statistics suggests NHIS students are leaving the school systems unequipped for college life and are finding it difficult to graduate.

Student profile

This data from the NHIS's School Status and Improvement Report provides its total student enrollment numbers and the percentage of students who attended for the entire school year. In 2013-14, it had a total enrollment of 957 students, of which 71%

were of Hawaiian ethnicity. Only 91% of its students remained in school for the entire year. This statistic falls short of the state's benchmark standard of 95%. This shows that some students beginning the school year at NHIS but do not complete it, potentially through a lack of engagement with the current school system.

Among the O‘ahu population, the Nānākuli community places amongst the lowest in terms of household median income. NHIS is grouped with other economically disadvantaged schools such as Waianae, Farrington, and McKinley (see table 5). However, NHIS has the highest percentage of its student body (73.5%) receiving free subsidized lunch (see table 3). It also has the highest percentage of youth receiving assistance from an outside source. This indicates that many of NHIS’s understudies come from low-income families and are in need of financial assistance.

Certified Staff

NHIS has a total of 75 full-time equivalent staff, with 60 being fully licensed, but only 27 having advanced degrees. When compared to staff qualifications at other schools on O‘ahu this places NHIS amongst the lowest. Wai‘anae is the only school with a lower percentage of licensed staff, and it is located within the same district. NHIS is in need of more certified staff with advanced degrees, especially from within its own community. This issue will be further discussed in Chapter 5: Community Integration.

Student Conduct

An analysis of the relationship between student conduct and attendance reveals that in 2014, NHIS had 89.7% of its students attend school daily, with an average yearly absence of 18.2 days. This absence figure is more than double the state average of 9 days, indicating that NHIS youth are potentially not engaged with the school or its methods of instruction.

NHIS had 14% (132) of its student body suspended in the 2013-2014 academic year. Some students were suspended multiple times. More than half (56%) of the

suspensions were for serious (Class A) misconduct: burglary, robbery, and sale of dangerous drugs. Another 36% (69) of total suspensions were considered to be for Class B misconduct: disorderly conduct and trespassing.

NHIS has a relatively high percentage of understudy suspensions and this suggests that these youths are not efficiently engaged in the current schooling system. Although understudies need to be accountable for their actions, suspension is not the long-term solution to the conduct problem. Some understudies may actually view suspension as a reward and an opportunity to stay home from school. Having understudies engaged in extracurricular activities provides an incentive for appropriate behavior to avoid suspension. It enables accountability as an understudy first, and athlete second.

School Completion

Although NHIS has a high percentage of community members who have completed high school, its dropout rates are still high compared to other schools. In 2014, 22.4 % (38) of NHIS students dropped out of high school, compared to the state average of 14.8%.

Graduating Students

An important consideration is that while a high percentage of NHIS students finish high school, not all graduate on time. In 2014, 99.2% of NHIS students graduated with diplomas. However, only 74% of these understudies graduated on time. This compares unfavorably with the state average of 81% of on-time graduations.¹⁰² This is evidence of a significant portion of NHIS understudies falling behind and needing to remain in high school longer to graduate.

¹⁰² 2014 Superintendents' Annual Report, Office of the Superintendant, 25th Annual Report, last modified June 2015. http://arch.k12.hi.us/state/superintendant_report/ssar2014.html

Summary

The statistics and comparison analysis with other schools provided a rationale for why a new hybrid educational model incorporating various learning methods is needed. Factors such as more qualified school staff, lower dropout rates, a higher percentage of college graduates and higher household median income all contribute to bettering a community.

Other communities with higher percentage of college graduates provide their understudies with more opportunities for success and a more effective preparation for the future, including, college applications, scholarships, and planning.

Conclusion

The development of a new public charter school has the potential to foster and provide a new communal heart for the region. The new school layout will incorporate communal spaces enabling parents and the wider community to build a relationship with the school. In some aspects, this chapter presents the concept of understudies bringing the community together, rather than vice versa. However, this relationship needs to be mutually beneficial, with both the community and understudies being developed together. An environment needs to be created where qualified school staff, cultural practitioners, families, and youth are able to merge, learn, and support one another. Furthermore, the designing of a new school equipped for contemporary learning will likely capture interest and attention of other qualified staff from outside the community, helping the long-term sustainability of both the school and the region.

The concept of a master planning a culturally- integrated k-12 public charter school within the given locale allows this chapter to be referenced as the major muscles of the human leg (see figure 19). This is further discussed in Chapter 6: Research Synopsis.

Chapter 4: Case Studies: Innovative Learning Environments

Introduction

This chapter of the research investigates two learning institutions - one with contemporary instruction and the other which uses traditional worldviews and philosophies of instruction. These two case studies will inform the development of innovative, culturally sensitive, and learner-responsive methods to be incorporated into the conceptual master planning of the hybrid educational model. The respective case studies to be analyzed are:

1. Dane Court Grammar School, in Kent County, U.K.
2. Kanu o Ka 'Āina, a bilingual Hawaiian-focused, project and place-based public charter school, located on the island of Hawai'i.

Both case studies facilitate the overall goal of providing culturally-informed master planning for a hybrid educational model that fuses traditional Hawaiian worldviews, guiding principles, values and learning styles into the contemporary context. Due to the complex nature of this project the case studies investigated will directly support and influence innovative learning strategies to meet the demands of society, but at the same time evoke relevant learning methods sensitive to the Hawaiian context.

Case Study: Dane Court Grammar School

The analysis of this case study will focus on the process which the Gensler office was able to apply in the restructuring of Kent County schools, specifically the Dane Court Grammar School (DCGS). Components pulled directly from the process of DCGS are planning, terminology, and the concept of flex spaces. By structuring and combining

elements into an organized system, the Gensler office was able to redesign the existing campus and facilities as a stimulating learning environment.

School Background

Located in Kent, United Kingdom, the Dane Court Grammar School is viewed as a model to re-invent learning in the 21st century via "a virtual and physical environment which accesses learning at anytime."¹⁰³ During the restructuring of schools in the Kent area, research found that 46% of 100,000 plus secondary understudies were exiting unprepared for the either the job market or entrance into college.¹⁰⁴

A new outlook and perspective for the traditional school systems and terminology became a necessity, particularly in areas such as "classrooms, assembly halls, and corridors."¹⁰⁵ Unless understudies viewed school as a place that promotes growth and learning in an appealing way the underlying problems of the traditional schooling system would remain. As one of the Gensler Directors for the project, Phillip Gillard stated, "Unless you start talking about educational facilities with a new language, you'll just build new old schools."¹⁰⁶

Re-inventing School Terminology

To support creative and enticing learning strategies one goal of the Gensler designers was to structurally cater for visual and kinesthetic learners while maintaining a traditional sense of education. This was accomplished by creating a wide range of flexible spaces with a greater square footage area dedicated to the learning process, accompanied by less concealed areas where isolation and problems may occur - such as in corridors and assembly halls.¹⁰⁷ Designers used more relevant and contemporary terminology to capture the attention of its understudies in providing an innovative

¹⁰³ Ibid, 77 .

¹⁰⁴ Ibid, 77.

¹⁰⁵ Ibid, 77.

¹⁰⁶ Ibid, 77.

¹⁰⁷ Jean Nayer, Building the Future, contract 2007, 77.

learning environment. By re-inventing the terminology and building types of the DCGS, designers were able to incorporate unique spaces throughout the school, providing "out of the box" innovations to facilitate the move away from rote learning methods.

Gensler designers were able to incorporate simple intrinsic terminology- terms that informed students of where and what type of learning may be expected by association. For example, the term "cave" was utilized for small intimate spaces designated for one or two people, where focused learning occurs. Mid-size spaces with more flexible configurations became known as "camp fires", providing occupants with opportunities for small group learning. Areas where gathering and informal exchange of ideas take place were identified as "watering holes". Large, open area, multi-function spaces that have the capability to be used for exhibitions and assemblies became the "heart" and center of either a building, or the school itself.¹⁰⁸ These concepts and terms are far removed from the traditional educational mindset of "one size fits all", instead zooming out and becoming more diverse to provide a wide range of spaces to promote both learning and social interaction.

As seen in figure 11, the following are flex spaces designed by the Gensler office to re-invent and promote the learning environment.

¹⁰⁸ Ibid, 78.



Typical Learning Space with Breakout zone for Project Based Learning (Partition wall semi-opme)



Circulation areas become extensions of learning spaces



Informal collaborative learning spaces

Figure 11: Terminologies for flex space.
Source: Gensler Architects Design Brief, 70.

Key Concepts

The Gensler office created a new "heart" in the existing school as a gathering space with multiple functions, becoming the core connection between the old and the new as the school re-invented itself, as seen in figure 12. Surrounding the "heart" are school programs placed into six "worlds" designated as learning spaces. This design is intended to create an educational environment that promotes understudies and staff to connect physically and visually while building academic pride.¹⁰⁹

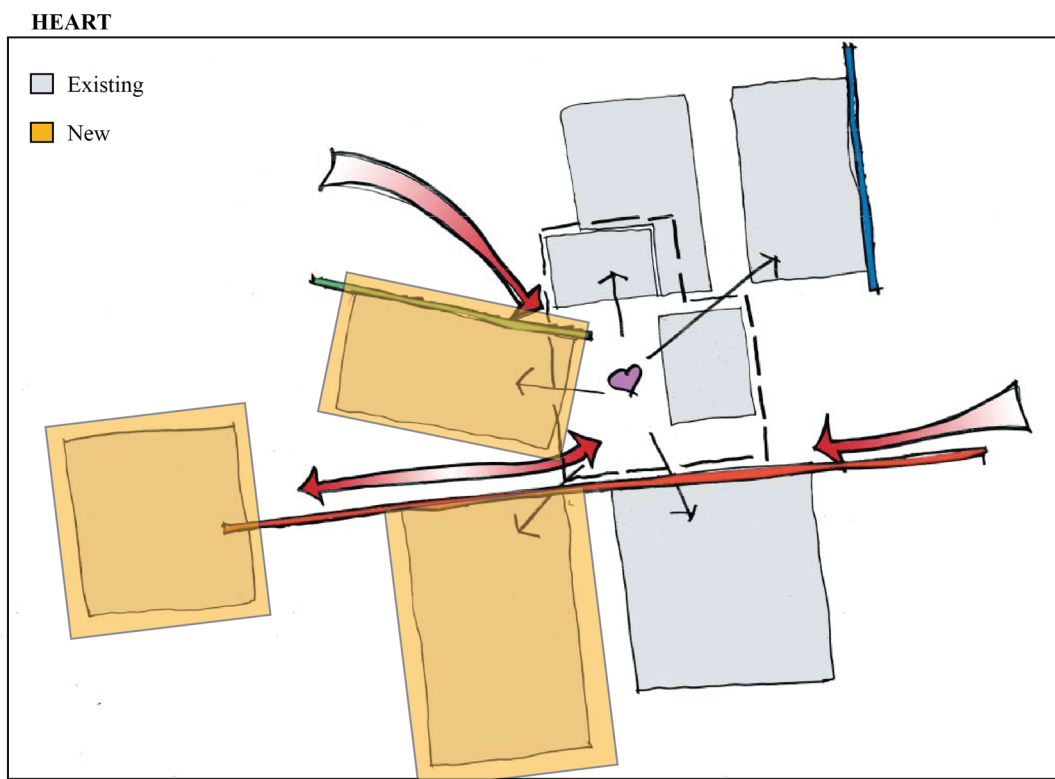


Figure 12: DCGS conceptual heart concept.
Source: Gensler Architects Design Brief, 81.

¹⁰⁹ Gensler Architects Design Brief, 81.

The heart has a main open space and intertwines with the existing theater and assembly.¹¹⁰ It is used for flexible functions such as school plays, assemblies, and examinations.

To enhance navigation and simplify the circulation of people throughout the school, two walls protrude toward the center of the heart. Two separate entries - a main for visitors and staff and the other for students - allow the walls to run the entire length of the school. The main northern entry marks the beginning of the north wall, while the student entry on the south end marks the beginning of the south wall. These walls also act as identifiers for the learning worlds which surround the school (see fig. 13).¹¹¹

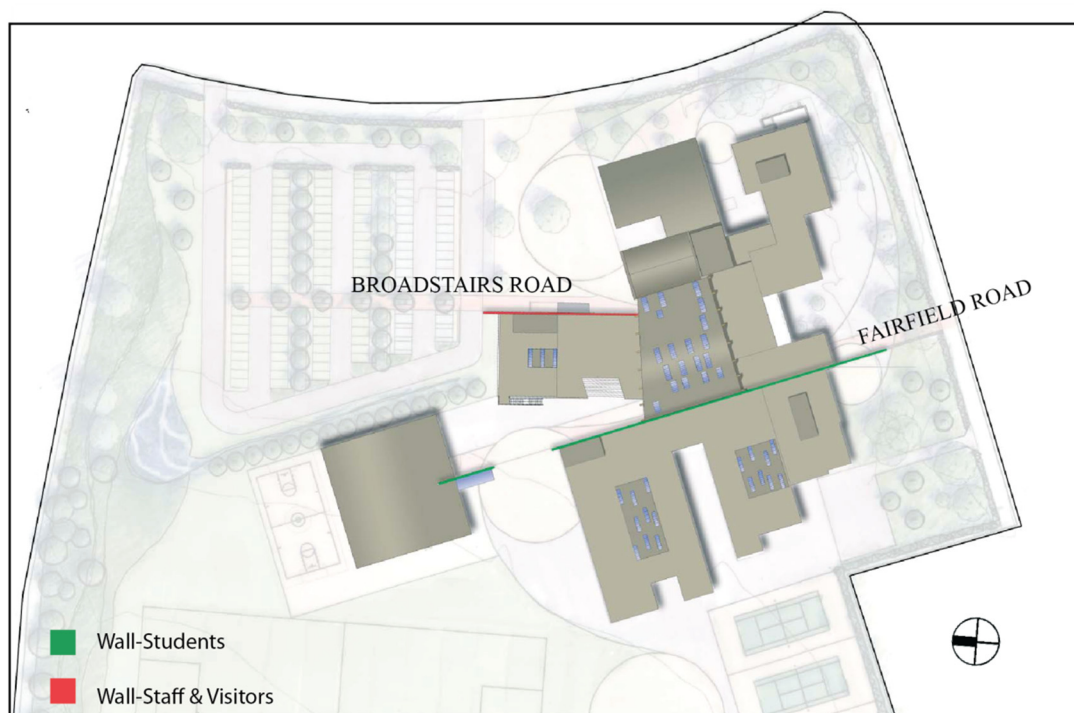


Figure 13: DCGS main circulation walls - north (red) and south (green).
Source: Gensler Architects Design Brief, 84.

¹¹⁰ Gensler architects design brief, 81.

¹¹¹ Gensler architects design brief, 81.

Learning Worlds

The school layout is broken down into clusters identified as learning worlds which surround the central heart, as shown in figure 14. This layout enables each world to be linked physically and visually with the central heart. Each learning world is made up of 4 key components:

- 1) a gateway allowing access to and from heart,
- 2) a central open learning space,
- 3) multi-flexible classrooms, and
- 4) access to an interior or outdoor learning space.¹¹²

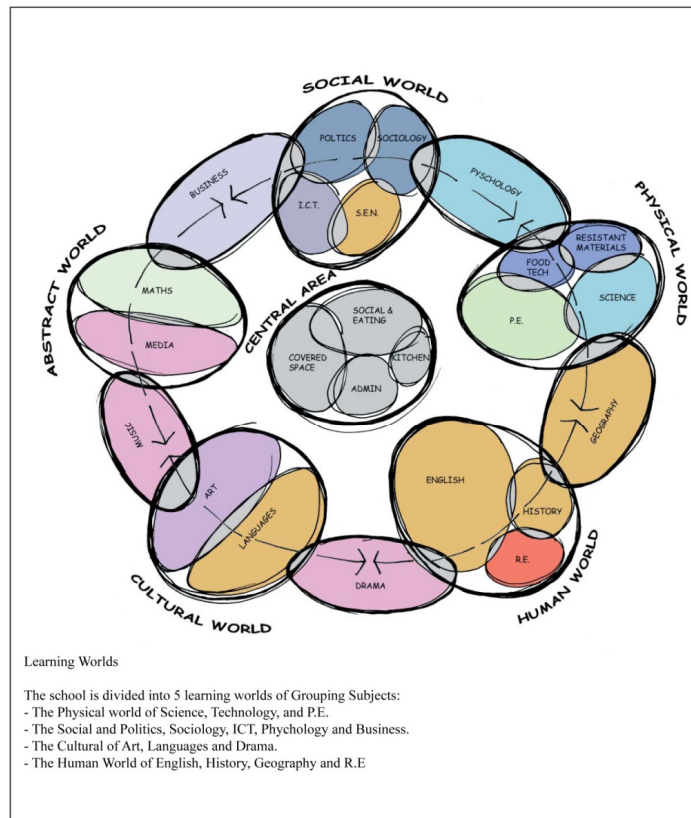


Figure 14: DCGS learning worlds.
Source: Gensler Architects Design Brief, 46.

¹¹² Gensler architects design brief, 81.

Melting Pods

Melting pods cater for students who are unable to focus and progress in large open spaces. These spaces are hidden behind the main wall of the central heart. Amongst the hustle and bustle of the newly active school, students are offered a place of comfort and the ability to learn in these unique spaces. These melting pods have been carefully designed to simplify circulation, maximize natural light, and minimize the need for dark corridors.

Planning

The Gensler office implemented a series of strategies to connect the users, campus, and site into a cohesive unit. Two strategies which helped inform the case study at hand to revitalize DCGS were:

- 1) Site and internal circulation.
- 2) Landscape materials and planning.

Site Circulation

The existing circulation paths were slightly disruptive for students and staff, making it difficult to circulate within the school and causing confusion and discouragement. Designing a central "heart" provides better orientation and circulation throughout the school with the help of its two main axes. The newly incorporated circulation allows vehicles, pedestrians, and cyclists to enter separately, with the reduced interaction also decreasing the potential for safety conflicts (as shown in fig. 15).¹¹³

Both staff and visitors alike can access the school grounds via Broadstairs Road traveling through a large congregation plaza that is paved as a pedestrian walkway for almost its entire length. This is a clear indicator to both vehicles and pedestrians and simplifies navigation.¹¹⁴

¹¹³ Gensler architects design brief, 126.

¹¹⁴ Gensler architects design brief, 126.

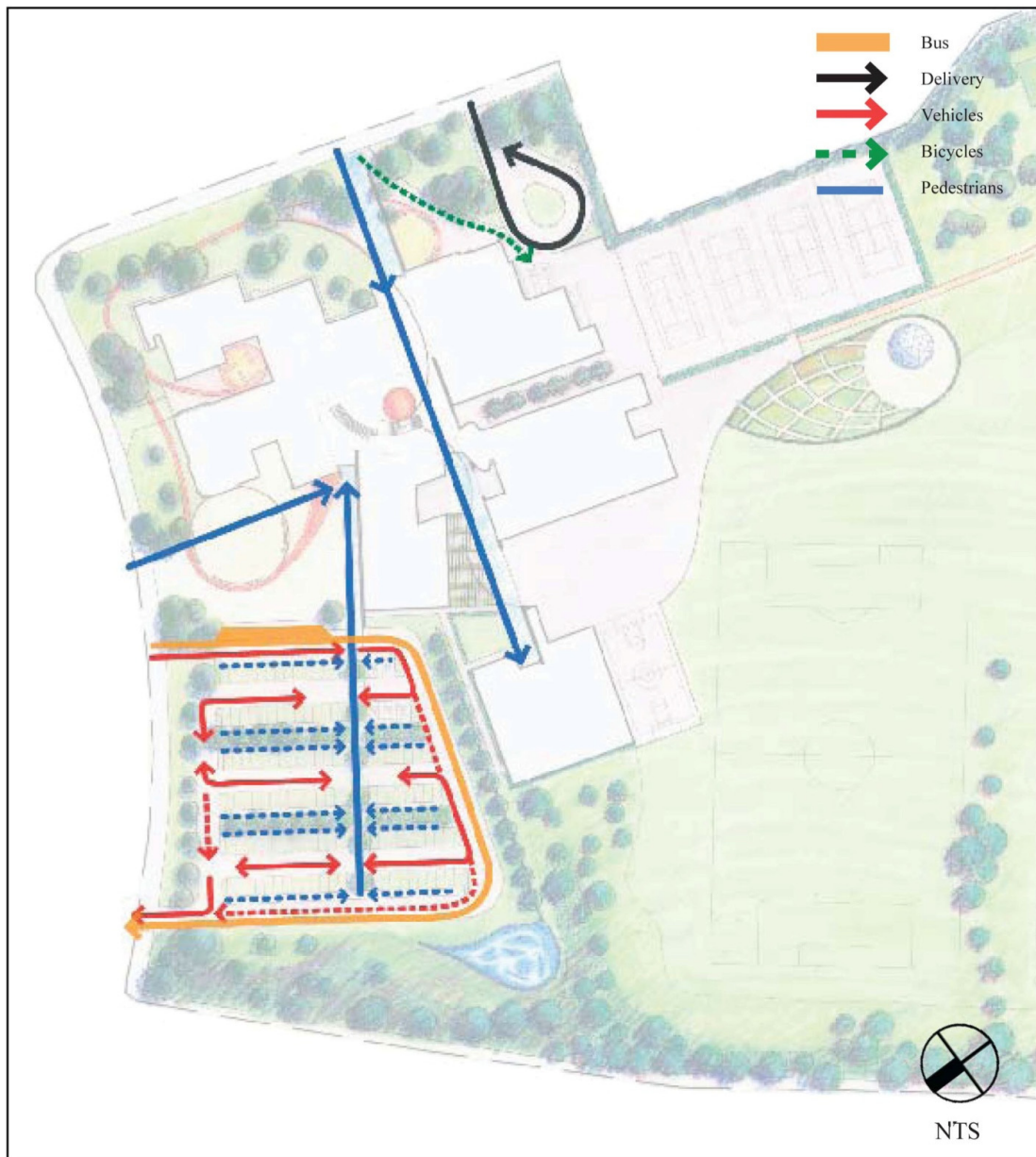


Figure 15: DCGS site circulation and access.
Source: Gensler Architects Design Brief, 126.

Internal Circulation

Not only was the existing site circulation confusing and disjointed, but also the navigation within its buildings. Prior to the new design understudies were unable to circulate internally within the buildings, having only external means of circulation. This allowed understudies to become easily distracted in-between classes, so the designers addressed that problem.

Designing learning clusters which incorporated related curriculum studies within one zone increased the time understudies spent in a given area, reducing unnecessary travel time and movement along with the associated opportunities for youth to engage in anti-social behaviors school-wide. With the enhanced design of learning clusters, major circulation spaces have been transformed into active learning areas. This helps to keep students busy and in sight.¹¹⁵ This supports the concept of physically and visually linking the school as a cohesive unit (see fig. 16).

¹¹⁵ Gensler architects design brief, 126.



Figure 16: DCGS internal circulation.
Source: Gensler Architects Design Brief, 57.

Landscape Strategies

The overall theme for landscape strategies within the school is to help link external spaces created by design and relate them to the existing landscape, attributes of the site, and the architecture.¹¹⁶

The primary landscape concepts are:

¹¹⁶ Gensler architects design brief, 123.

1. Parkland Zone and Natural Zone - are the two interlocking zones that divide the school's site edges. The Parkland Zone wraps around buildings along the roads acting as entrances, reinforcing the existing collection of ornamental trees set in grassland areas. A Natural Zone provides a dense and protective boundary to the site which wraps around the sports facilities and the hard and soft pitch areas. Likewise native vegetation helps identify and visually divide sports facilities and learning worlds.

2. Learning Ribbon - This is a 'ribbon' weaving through and around the buildings, extending into the wider landscape. Along the ribbon are a series of circular spaces of different sizes, providing external teaching and performance areas, with the final wider landscape space being a natural area. This learning ribbon is viewed as the circulation connecting the entire school as a whole.

By using these landscape strategies, designers were able to creatively meet, connect, and promote the educational needs within the school, while being eco-friendly with the existing landscape. In designing a school with consideration for its surrounding environment, designers created a rich learning environment that engaged students in learning with both staff and the community as a whole.¹¹⁷

¹¹⁷ Gensler architects design brief, 123.

Landscape Strategies

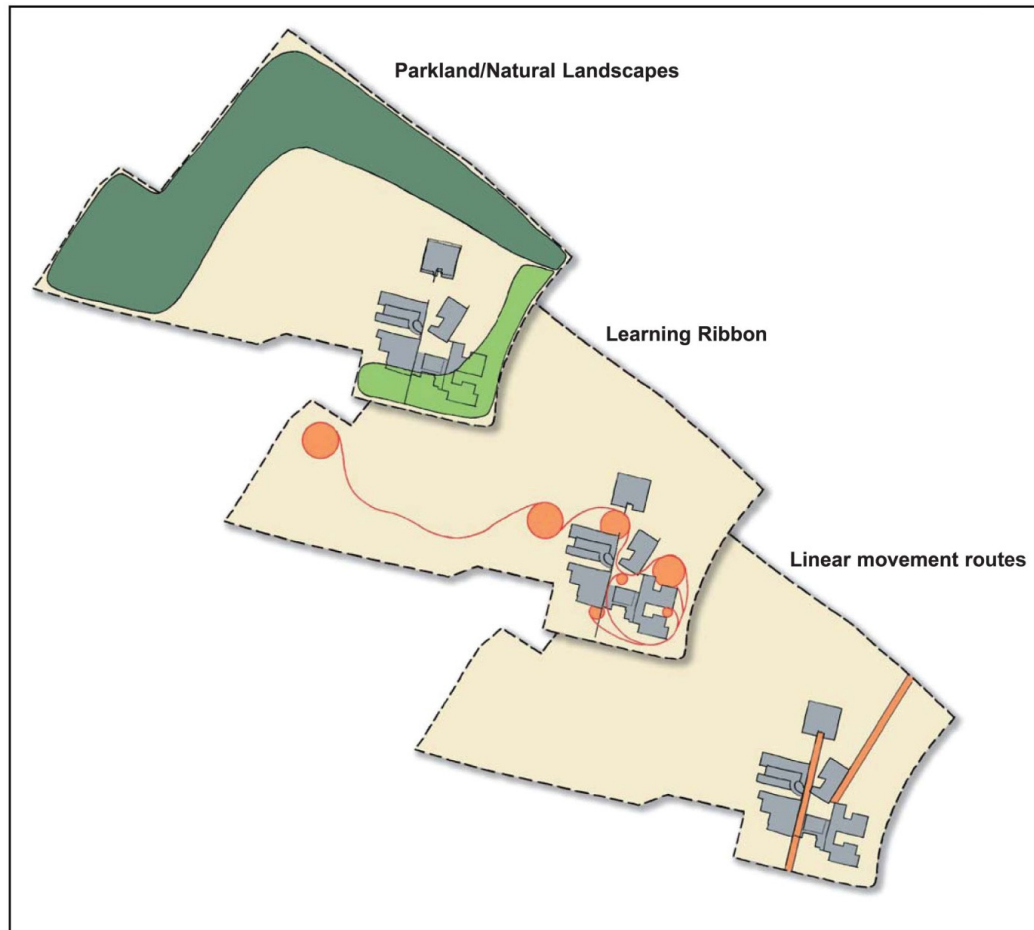


Figure 17: DCGS landscape strategies.
Source: Gensler Architects Design Brief, 123

Landscape Strategy of Hard Materials

The hard materials strategy helped to develop a palette of materials appropriate for use in specific locations within the school site. Considerations for using hard materials included an analysis of whether they would help the relationship between users, circulation paths, and their suitability for educational use. One indicator of the suitability of a hard surface material is the constant pressure it will receive from both users and nature. The DCGS designers developed a scale of hard surface materials, creating patterns, textures, and sizes promoted their use and proximity to the surroundings. The designers also considered using sustainably sourced local material which is in line with

National Green Specifications.¹¹⁸ In addition, a wide selection of furniture situated around the site assisted in the landscape strategy of linking school spaces, its users, and their daily circulation and social interaction.

Soft Landscaping and Habitats

The strategy of soft landscaping throughout the school grounds used the existing vegetation along its roads (Broadstairs and Fairfield) and field perimeters. Native vegetation was also restored along its boundaries on the eastern and southern sides of the campus.¹¹⁹ In addition, the design facilitated the following soft landscaping and habitat development:

(1) The Parkland area which connects both Broadstairs and Fairfield Roads is designed into a small arboretum consisting of rare and exotic trees. The learning zones and parking areas in close proximity are bordered off by the planting of native trees and hedge growth vegetation.

(2) The western and southern boundaries enclosing athletic fields are restored with native species of meadows, scrub and woodland areas. With adequate maintenance these edge boundaries will grow into natural habitats protecting the sport fields from the prevailing south-westerly winds. Having such an extensive natural habitat structure will enrich the area for both flying and land-based native species.¹²⁰

(3) The development of a large habitat in the ending portion of the learning "ribbon". Included in this habitat is a pond supporting aquatic plants and species, turning the area into an outdoor learning environment. This large habitat is located at the lowest elevation onsite.¹²¹

¹¹⁸ Gensler architects design brief, 129.

¹¹⁹ Ibid, 130.

¹²⁰ Ibid, 130.

¹²¹ Ibid, 130.

(4) The elevated area to the east of the large habitat is used for farming and agricultural needs and provides another opportunity for outdoor learning.¹²²

(5) Between the large open landscape and learning zones, a small eco-center adjacent with the science and technology zone helps to link other learning zones school-wide. The development of such a center encourages small facilities pertaining to biome and enhances the study of flora and fauna to be nurtured and released back into these newly created habitats.¹²³

Numerous habitats and species action plans have been identified within the site in accordance with Kent County's action plan. "Contained within the report are species lists, the location of bird and bat boxes, management of hedgerow areas and so on, in order to preserve, enhance and maximize both the ecological and educational value of the site."¹²⁴

The Gensler designers carefully approached the design of soft landscaping and habitats to linking existing sites within the school to the newly designed buildings and spaces.

¹²² Ibid, 130.

¹²³ Ibid, 130.

¹²⁴ Ibid, 130.



Figure 18: DCGS soft landscapes strategies.
Source: Gensler Architects Design Brief, 125

Planting Strategy

In these newly created habitats Gensler designers wanted to maximize the usage of native plant species associated with the Kent region. Designers based their planting list on the ecological report produced by Hilson Morgan with an emphasis on the region's

Biodiversity Action Plan (BAP).¹²⁵ The planting of vegetation is structured in a way that maximizes the range of functions it provides, as follows:

- maximize biodiversity and promote local ecological distinctiveness;
- respond to local climatic and soil conditions;
- provide structure and screening to the school site boundaries;
- develop a range of sensory experiences, using the diversity of plants available;
- provide shelter and help dissipate the speed and eddying of prevailing winds;
- provide an educational tool that can be used in a range of curricular activities.

As outlined in the ecology report, four BAP priority habitats have been identified at DCGS:

- built-up areas and gardens.
- lowland calcareous grassland.
- lowland meadow.
- mixed broadleaved woodland and plantations.¹²⁶

All listed strategies helped the Gensler office to efficiently maximize the usage of plants within the school, helping to enhance the overall campus layout and circulation in both a visual and sensory manner.

Sensory Planting

A component of the planting strategy is the implementation of sight, sound, and touch induced by the native vegetation species. Sight includes vibrant colors of flowers and/or foliage, sound is produced by plants with rustling foliage and rattling seed heads, and finally touch provides the tactile essence of plants from rough to smooth. All vegetation enhances the circulation and interaction around the existing school site.¹²⁷

¹²⁵ Gensler architects design brief, 132.

¹²⁶ Ibid, 132.

¹²⁷ Ibid, 134.

Summary

The Gensler office in London developed an extensive plan to re-invent learning by way of school design and master planning. These concepts and learning innovations correlate with the concept of a newly designed public charter school with a focus on Hawaiian cultural heritage. The following innovative strategies will be extracted from this case study for the planning of the proposed new Hawaiian school:

- planning strategies,
- learning worlds,
- landscape strategies,
- flex spaces, and
- re-invented terminology.

Like DCGS, the new public charter school will use these strategies to stimulate a learning environment which promotes growth and facilitates navigation. These strategies will be grouped accordingly and not be acted upon independently of each other. Some examples of potential groupings and/or use of these strategies for the proposed new public charter school in Hawaii will now be outlined.

Learning Worlds and Terminology

The DCGS Learning Worlds will be re-invented to incorporate traditional Hawaiian professions, for example the Performer's World consisting of hula (dance) or oli (chant). This cultural profession includes the world of music, singing, dance, performance, and many more. This will become a learning world within the school and house all curriculum elements that correspond to and across related content zones. This type of terminology and reference to cultural knowledge will help understudies to become familiar with traditional practices, activities, and curricula associated within this learning world prior to occupying this world. Beyond this, learning worlds will have the

opportunity to either act as, or house, flex spaces affording users the mobility to implement various modes of learning and activities.

Planning Concepts

Accessibility is an important component in the DCGS design. It helps users in a variety of ways such as entry, navigation (circulation), nodes, thresholds, hierarchy, and axis both within and beyond the school campus. In the new public charter school's master plan these accessibility components will be incorporated accordingly.

The entry of the school will be referred to as the *kāhi hāiki* (passage narrow) which refers to the womb one exits when born.¹²⁸ Similarly, education is viewed as the passage way leading understudies to knowledge, wisdom, and connection within the school, marking the beginning of knowing. This concept will also help to determine school entry points, as all users will enter via separate circulation paths to help ease the flow of traffic and minimize potential safety concerns. For example, pedestrians, cyclists, and vehicles will all enter the school through the main entrance, but circulate within the school on different paths to avoid conflict. Having a main axis allows both security and staff to monitor who is accessing the school at any time throughout the day, reducing of the potential for crime or truancy.

Navigation will be aided firstly by the accessibility paths of for each user group, and further strengthened by cultural implications. As *keiki* navigate through the school grounds they will be immersed in the Hawaiian worldview perspective, encompassing cultural awareness and associations.

¹²⁸ Pukui, Mary Kawena, E. W. Haertig, and Cathine A. Lee. *Nānā I Ke Kumu = Look to the Source*. Vol. II. Honolulu: Hui Hanai, 1972, 15.

Landscape strategies

Landscape strategies will help to strengthen the school's layout, access, hierarchy, and other related aspects. These strategies will link the school with its learning worlds, outdoor extended learning, and social areas as well as extending to the natural environment beyond. They will help to indicate circulation, barriers, mini environments within the school, and natural habitats found within the Valley. These landscape strategies are broken down into two sub-categories: hardscapes and softscapes.

Hardscapes

A hardscape strategy helps to improve navigation between users, circulation paths, and proximity to buildings, by material choice. As mentioned in the DCGS case study, one important consideration for the potential use of a hard surface material is the constant pressure it will face from both users and nature, and more importantly, in what zones these hardscapes will be located.¹²⁹ For example, near formal instruction the majority of pathways will be solid concrete pathway marked by culturally-charged indicators informing users of formal learning, whereas in the multifunctional areas, pathways will be broken-up and become less dense than those in the previous area, indicating a less formal space where other functions of the school occurs. This allows for a variety of pathways consisting of other materials besides solid concrete, enabling areas (extended learning and breakout spaces) to feel less like an ordinary school. Material palette will consist of natural stones, dirt and gravel, and grass paving because solid materials like concrete were not a common resource in traditional times.

Another hardscape consideration will be how the material palette loses its density and roughness. Using softer materials as individuals move away from formal instruction and further into other areas will help the site to be more welcoming, blending in with the natural environment.

¹²⁹ Gensler architects design brief, 132.

Softscapes (vegetation, pathways, openness)

The softscape strategy will indicate milder areas within the school, such as spaces or areas away from the hustle and bustle of formal activity. Outdoor spaces like breakout zones will be indicated by softscapes including grass, wood furniture, and other plant species.

Pathways in the extended learning areas will become softer with the use of gravel, grass, and ultimately pathways created by nature. This allows users to be immersed in the natural setting when occupying these classes and spaces.

Landscape strategies of vegetation will indicate types of circulations within the campus. For example, particular plants may be implemented along the perimeter of extended learning areas to identify the boundary between the campus and existing habitats. This strategy will also be implemented along major circulation pathways providing the opportunity for youth to learn the many different types of native species both within and outside the classroom, as they circulate around campus.

Conclusion

The conceptual master plan of the hybrid educational model will use strategies from the DCGS case study as guidelines in approaching how the new public charter school will link to the existing site and community. Concepts of a new identity and the traditional past will be incorporated in the creation of a contemporary school immersed in both culture and education, facilitated by conceptual master planning.

Case Study: Kanu o Ka 'Āina

Kanu o ka 'Āina is a bilingual, Hawaiian-centered project and place-based public charter school with a current enrolment of 232 understudies in grade levels from K through 12. More than 80 percent of students are of Hawaiian lineage. Established by an energetic, profoundly gifted Hawaiian learning 'ohana (extended family) in 2000, the school is situated in the Department of Hawaiian Home Lands in Pu'ukapu of Waimea on the Island of Hawai'i. Its developers have created an effective project-based model of academia that is both traditional and contemporary, facilitating the ability to plan and control its own particular method of instruction.¹³⁰

As a Hawaiian-centered model of instruction, Kanu's name, mission, theory, values, pedagogical and authoritative methodologies all connect academia with Hawai'i's local culture, qualities, connections, and histories.¹³¹ Kanu has moved far away from utilizing rote educational programs intended for conventional classroom learning.¹³²

In the Kanu pedagogy method, traditional is contemporary, and understudies are prepared to walk effectively in numerous worlds. By participating in true scientific exploration in their communities, understudies experience hands-on encounters in the environment that permit them to both meet and surpass customary and cutting edge benchmarks. For the first time in their lives, many understudies appreciate coming to class regularly and learning. They are empowered them to experience academic development via numerous avenues.¹³³

In 2010, Kanu was awarded a full term six year joint accreditation by the Hawaii Association of Independent Schools (HAIS) and Western Association of Schools and

¹³⁰ "Kanu o ka Āina NCPCS," Hawaii Public Charter Schools Network, accessed October 15, 2015, <http://www.hawaiicharterschools.com/school/kanu-o-ka-aina-ncpcs>.

¹³¹ Ibid,13.

¹³² Ibid,104.

¹³³ Kanu O Ka Āina, New Century Public Charter School, Accreditation Study 2009, 3.

Colleges (WASC) for its K-12 program- the first Hawaiian-centered charter school to receive such recognition.¹³⁴

Mission

Grounded by a common goal to kŭlia i ka nu‘u (strive for the highest) and its exceptional teaching method of aloha, Kanu continues to develop while propagating the language and cultural practices of Hawaiian ancestry.

Kanu collaboratively designs, implements, and perpetually assesses its quality and culturally-determined model of academia. Kanu’s educational model is delivered in an environment saturated with aloha, incorporating culturally consistent direction and real evaluation.¹³⁵

Values

The development of Kanu's pedagogy of aloha includes conduct expectations for understudies, staff and ‘ōhana individuals based on Hawaiian values. Four Hawaiian proverbs guide expected conduct and create an inclusive atmosphere of aloha. This integration of aloha is recognized as the foundation for understudy achievement.¹³⁶

- Aloha kekahi i kekahi- Love one another.
- Mālama i kou kuleana - Take care of your responsibilities.
- Kōkua aku, kōkua mai - Give help, receive help.
- Mahalo i ka mea loa‘a - Be thankful for what you have.¹³⁷

Kanu is rooted in the beliefs of the Hawaiian family-line. These beliefs incorporate several ancient Hawaiian ‘ōlelo no‘eau (proverbs) that support Kanu's instructive practices. Chosen proverbs determined the school's name, mission, and behavioral expectations. They also act as foundational descriptions of educational programs,

¹³⁴ Ibid,4.

¹³⁵ Kanu O Ka Āina, New Century Public Charter School, Accreditation Study 2009, 19.

¹³⁶ Kanu O Ka Āina, New Century Public Charter School, Annual Report 2008, 39.

¹³⁷ Kanu O Ka Āina, New Century Public Charter School, Accreditation Study 2009, 19.

instruction, evaluation, as well as the school's formal and informal structure. These values of the kūpuna are rooted in the school's model for 21st century Hawaiian education.¹³⁸

Community Engagement

Kanu accepts understudies, families and staff of every ethnic and cultural group provided they make a pledge to effectively propagate Hawaiian language, culture and customs, and endeavor to achieve their best. Kanu o ka 'Āina actually means 'plants of the land.' Metaphorically, it alludes to 'natives of the land from generations back.' In customary times, this term was a declaration of affection, admiration and aloha. As a Hawaiian-focused public charter school, Kanu seeks to meet the needs and learning styles of individuals to identify with 21st century Kanu o ka 'Āina. Developing contemporary Hawaiians living an pono (a righteous lifestyle) - as familiar with traditional as contemporary knowledge, as skilled on the PC as in the taro patch or on a double-hulled canoe, just as calm in a malo, as a tuxedo - yet most content in shorts and shoes both truly and figuratively.¹³⁹

Around 75 percent of Kanu families live in Waimea. The vast majority of these understudies and staff are long-term, local natives of Waimea, genuine Kalo Kanu o ka 'Āina. A large majority live with relatives on the Hawaiian Home Lands. The other 25 percent of Kanu's understudies and staff come from Kāmākau, North Hilo, North Kohala, Kawaihae, Waikoloa and Kona. Since Kanu is a family-arranged, community designed and controlled school, the majority of its understudies and staff are related. This includes those who are immediate wards of Kanu staff, or have close relatives like grandparents, uncles, aunts, kin and cousins working at Kanu, KALO or associated programs. This has helped the concept of 'ohana to penetrate the school grounds and is apparent in the way

¹³⁸ Ibid, 15.

¹³⁹ Kanu O Ka Āina, New Century Public Charter School, Annual Report 2008, 9.

that understudies refer to adults as "Uncle", "close relative" or "Tutu." While such familiar relations provide numerous advantages for all learning 'ohana, they likewise pose unique interpersonal difficulties and require effort to guarantee genial relationships and willing working conditions.¹⁴⁰

Curriculum

Project-based academia is by definition multi-disciplinary, cross-curricular, all inclusive of all understudy capacity levels, incorporating those with unique needs and extraordinary ability and gifts. In many schools today understudies find out about the world through the disengaged, discrete lenses of scholastic subjects like writing, history, arithmetic, science, and material science. However, learning in the local Hawaiian model and for the most part in the realm of work, is never so perfectly compartmentalized. Generally, there are essential interrelationships in the middle of understudies and their surroundings, with imperative connections to comprehend that crossover the compartmental scholastic subjects. This demands the utilization of an interdisciplinary, organized system where understudies investigate subjects and themes that consolidate multiple content areas in a more comprehensive, integrated style.¹⁴¹

Project-based learning is a favored instructional methodology at Kanu on the grounds that it provides a viable, authentic avenue for the instruction of all, while simultaneously addressing nature, place, curricular integration, relations, significance, thoroughness, and habits. An assortment of assets and hui (teaching groups) are utilized to create educational modules around particular topics and essential questions (EQ). Scholastic subjects, instructional practices and procedures, and different types of assessments are coordinated and adjusted as educational modules to Hawai'i State standards and benchmarks while incorporating cultural principles like Nā Honua Mauli

¹⁴⁰ Ibid, 9.

¹⁴¹ Kanu O Ka Āina, New Century Public Charter School, Accreditation Study, 2010, 17, 96.

Ola. Starting in kindergarten, understudy inquiries drive Kanu project topics, with the objective being that coming full circle in the Kanu project in the senior year is totally understudy driven and self-coordinated.¹⁴²

The Native Hawaiian Education Council (NHEC) has identified Hawaiian cultural norms in partnership with the Ka Haka ‘Ula O ke‘elikōlani College of Hawaiian Language (KH‘UOK). Two reports titled Nā Honua Maui Ola-Hawaii Guidelines for Culturally Healthy and Responsive Learning Environments (HMO I), and Supporting Culturally Healthy and Responsive Learning Environments (HMO II) contain rules/measures, procedures and suggestions for enhancing the nature of instruction for Hawaiian learners, instructors, families, groups and schools/organization.¹⁴³

Ke Kumu Honua Maui Ola, a Hawaiian instructive theory, is the cultural base from which the HMO guidelines have been created. This theory identifies the maui as the social heart and spirit of an individual, and advocates the cultivating of one's maui through three piko associations inside the honua (environment).

- Piko ‘Ī: Spiritual connection found at the crown of the head.
- Piko ‘Ō: Inherited connection found at the navel.
- Piko ‘Ā: Creative connection found below the navel.¹⁴⁴

The honua ola encourages the development of one's maui through facilitating encounters between people and their environment. The honua is vital in the improvement of one's maui. The maui ola (living life force) is cultivated through feeling the most profound sense of being via conduct/actions, language and traditional information. Keeping up one's maui ola Hawai‘i empowers an individual to comprehend the significance of past Hawaiian knowledge and to use this legacy as their foundation to proceed in future eras.¹⁴⁵

¹⁴² Ibid, 96.

¹⁴³ Nā Honua Maui Ola -Hawai‘i Guidelines for Culturally Healthy and Responsive Learning Environments Master Document 1: DRAFT Honua Maui Ola Committee: May 19, 2002, 2.

¹⁴⁴ Nā Honua Maui, 2-3.

¹⁴⁵ Ibid, 3.

These HMO guidelines offer a framework from which to view the learning environment to guarantee the investment and planning of the learning community: instructors, understudies, parents, overseers, community individuals, assets, and support staff. Every rule incorporates careful thought for the procedure, substance and results to be accomplished by each individual in the learning community.¹⁴⁶

At Kanu, in order to develop core content area abilities in Math, Language Arts and Hawaiian Language, understudies are gathered by capacity into content range workshops taught by educators with mastery in these fields. These workshops permit understudies to concentrate on meeting targeted benchmarks. . Aptitude building in math and writing remain fundamental and educators and administrators have committed additional time, assets and expertise to these particular understudy needs.¹⁴⁷

Educators provide direction and appraisal for their multi-age understudy gatherings to enable them to progressively meet benchmarks in Science, Social Studies, Health, P.E., and Fine Arts. Developing reliable and adequate framed lessons and tests represents a challenge for Kanu's educators in their multi-age classes. However staff believe that such multi-age groupings maximize understudies' potential and they continue to work innovatively to meet understudies' instructional needs accordingly.¹⁴⁸

Kanu's General Learner Outcomes (GLO's) are the foundation of all teaching and learning within the school and assist with their objective of helping to develop all understudies to their full potential. In addition to being assessed each quarter by their counsels with respect to the GLOs below, Kanu's 6-12 understudies also complete their own self-assessment rubrics throughout the school year for these GLOs, observing their own development:

- The capacity to be in charge of one's own learning.
- The understanding that it is key for people to cooperate.

¹⁴⁶ Ibid,3.

¹⁴⁷ Kanu O Ka Āina, New Century Public Charter School, Accreditation Study, 2010, 17, 69.

¹⁴⁸ Ibid,96.

- The capacity to be included in complex intuition and critical thinking.
- The capacity to perceive and deliver quality execution and quality.
- The capacity to impart viably in English and Hawaiian.
- The capacity to utilize an assortment of advancements viably and morally.¹⁴⁹

Kanu's expectation is to graduate understudies who can walk in numerous worlds. This incorporates the capacity to impart both in English and in Hawaiian. From kindergarten, regular utilization of Hawaiian is integrated within most settings. The goal is for understudies to appreciate the indispensable connection between their language and their cultural identity. All understudies from K-12 are presented with place-based Hawaiian language direction, with secondary school understudies having the capacity to progress to Hawaiian V. It is the objective of the system to develop bilingual graduates through this everyday use of the Hawaiian language, and also through workshops. Kanu's project addresses the entire keiki (child), and provides opportunities for Hawaiian practice and ceremony to develop the passion, spiritual, mental and social aspects of understudies via connecting with their physical and natural settings. Understudies are welcome to take an interest in numerous cultural practices managed by Kanu staff and community kūpuna (elders) in order to develop and connect with their culture, community and environment.¹⁵⁰

Understudies throughout K-12 are consistently presented with practical information. The oral exchange method of Hawaiian teaching and learning is immovably established and Kanu's cutting edge educational programs are consistent with this oral tradition of instruction. Language is perceived as the articulation of breath in Hawaiian culture. Kanu's understudies and staff all partake in ceremonial practices to begin their day on a positive, centered, and grounded note. The oli (chants) and melodies of

¹⁴⁹ Kanu O Ka Āina, New Century Public Charter School, Accreditation Study, 2010, 17, 98.

¹⁵⁰ Kanu Accreditation, 98-99.

ceremony connect understudies, staff, and community individuals to their ancestors, one another and ‘āina (the land). Mo‘olelo (stories), from the ancient to cutting edge, are an essential component of Kanu’s educational programs across content zones. They provide analogies to enable understudies to comprehend the workings of both the human and natural world.¹⁵¹

As mentioned earlier, there are Hawaiian ‘ōlelo no‘eau for all Kanu values. For instance, the benefit of growth is taught in the Hawaiian proverb, He pūko‘a kani ‘āina. This proverb is about a coral reef that develops into an island and alludes to a person starting small, who holds on, until he or she turns out to be immovably established.¹⁵²

Secondary Projects

Kanu's supplementary system is based on experiential place-based group undertakings. Throughout SY 2009-2010, understudies were divided up into hui (groups) such as the Waipi‘o Hui, Pu‘upūlehu Hui, Pu‘ukapu Hui, and Kauhale Hui. Every one of the tasks assigned to these level 6-12 project hui are associated with a special or scared place and hold a unique kuleana (responsibility).¹⁵³

The project hui are positioned in dynamic areas dear to the hearts, history, and livelihood of those who call North Kohala their home. Kanu's four open air classrooms or learning research facilities are settled in the bosom of Mauna Kea, from the seat of the Kohala Watershed region known as Pu‘ukapu to the wonderful Valley of Waipi‘o on the northeastern beach front.¹⁵⁴

¹⁵¹ Ibid, 99.

¹⁵² Ibid, 100.

¹⁵³ Ibid, 116.

¹⁵⁴ Ibid, 116

All secondary projects are interdisciplinary, coordinating subjects such as Science, Social Studies, Math, Language Arts with well-being, physical training, fine arts, innovation, vocation and life abilities, cultural information and ability, and Hawaiian dialect. All tasks provide continuous hands-on opportunities for understudies to apply their insights. Understudies stay in one project for two years before having the chance to change to another task. This structure provides the advantage of understudies staying with their teachers for two or more calendar years.¹⁵⁵

Kanu's project sites are the arranging areas for four authentic complete courses of study that give its understudies in levels 6-12 a unique, profoundly significant educational program focused on the Environmental and Natural Resource Career Path. In each of the hui, a few instructors guide understudies in their investigation of Essential Questions (EQs) about the past, present, and future importance of their "place". The EQs are the key component that drives the content, exploration, exercises and serve as a source of perspective for the project. The essence of project-based learning begins with understudies' engagement and responsibility for learning. They are empowered with decision-making and need to appreciate the consequences of choices, ask great questions, and make connections with one another, family and community individuals, all while gaining a more extensive understanding of their surroundings.¹⁵⁶

The multi-age understudies in each hui scientifically explore and investigates their place, taking part in group activities to discover solutions for their essential questions. Culture and physical sciences are highly correlated and both help with the understanding of every region. Understudies think about the dialect, traditions, diets, agricultural practices, artistic expressions, functions and interest of the local individuals at various historical times and with an eye to the future and a consideration of nearby plants, soil, water sources and animals. Mo'olelo (stories) of historical and present day individuals, animals, and spiritual beings are regularly the premise of lessons that can then branch

¹⁵⁵ Ibid, 116.

¹⁵⁶ Ibid, 116-117.

into any order of study. ‘Ōlelo no‘eau, the Hawaiian knowledge expressed in proverbs, additionally frame the daily lessons at the project sites. Math, Language Arts, and Hawaiian Language or ‘ōlelo Hawai‘i are incorporated into task topics, and in addition taught as specific content with constructed lessons where necessary in light of a regular routine.¹⁵⁷

A keiki (child) in any hui increases their key academic and life skills through rigorous, important, experiential learning in a rich open- air environment. While the general experience of Kanu's secondary project teams is comparable, each hui also has distinct goals. The Essential Questions (EQs), focus, key commitments to the earth and Hawaiian progression and the achievement of particular content and execution models can vary with each project. The hui also investigate diverse cultural values and practices and propagate distinctive aspects of Hawaiian culture.¹⁵⁸

Every project encourages the development of positive change for the learning ‘ohana and/or group, as well as the surrounding habitats. Furthermore, projects are intended to prepare understudies for 21st century employment fields by developing proficient skills.¹⁵⁹ These skills are as follows:

- Basic Skills: reading, writing, mathematics, speaking and listening.
- People Skills: social, negotiation, leadership, teamwork, cultural diversity.
- Personal Skills: self-esteem, self-management and responsibility.
- Thinking Skills: creative thinking, problem solving, decision-making and visualization.¹⁶⁰

Development of these skills allows understudies to traverse in both ancient and modern worlds simultaneously in these ever-changing times. In addition, learning ‘ohana outside of the school allows understudies’ relatives to also be exposed to such educational and

¹⁵⁷ Ibid,117.

¹⁵⁸ Ibid, 117-118.

¹⁵⁹ ibid,118.

¹⁶⁰ Ibid, 118.

environmental experiences. Consequently, there is the potential to not only develop youth, but also the community as a whole.

Summary

The new public charter school and educational model outlined in this thesis will incorporate innovative learning approaches from the Kanu o ka 'Āina School case study. These learning approaches are project-based learning, hui (learning groups), 'ōlelo Hawai'i and no'eau (Hawaiian language and proverbs), as well as the concept of appreciating learning in methods of both the ancient and the modern.

Learning Approach: Project-Based Learning

Project-based learning removes understudies from a one-dimensional model of learning within enclosed facilities. It immerses them instead in their natural surroundings to spark interest in both practical and academic knowledge. This learning approach presents opportunities for planning spatial layouts which integrate the fullness of natural world and what it has to offer. Sites, sacred places, or those considered important to understudies can be implemented within the school or in an extended outdoor class environment.

This learning and design approach enables understudies to explore, learn, experience, and connect to their personal environments, engaging in self-directed learning beyond the covers of books and websites.¹⁶¹ This is a traditional authentic way for understudies to learn and experience the Hawaiian worldview perspective. Although the model for the new school in this thesis will integrate innovative technological strategies indoors, the school's youth will also spend a vast amount of time outdoors. As an architectural component, this type of learning provides an avenue for open-air classrooms, outdoor social spaces, and planning opportunities between facilities.

¹⁶¹ Ibid, 117.

Learning Approach: Community-Hui (Groups)

In the new school outlined in this thesis, outdoor classes or "place-based" designs will not only integrate understudies and nature, but allow the relationship of community members who are culturally informed to collaborate with both school staff and understudies.

This enables the participation of community members, kūpuna (elders), parents, and the community as integral assets in the educational system. The location of the intended charter school provides the opportunity to place facilities and classrooms on campus or in the natural surroundings. The implementation of a gathering area for kūpuna and community members on campus will help with the development of the conceptual master plan of the 'Ōhana Learning World. The intended facility will incorporate culturally-driven planning which stimulates cultural learning and awareness for both school and community users.

Hui (multi-age groups) facilitate project-based learning, with understudies encouraged to develop initiative and take ownership of their learning. This form of learning provides understudies with the opportunity to make choices, ask relevant questions, and widen their knowledge and awareness of their environment. "Within each hui students are grouped based on current knowledge or skill levels in Language Arts and Math, which ensures that each child works towards personally challenging goals in these areas... This arrangement of students allows for small group instruction, efficient teaching, and maximum student learning."¹⁶² Multi-age learning sequentially builds a foundation from basic to more advanced skills. Learning in various age groups also helps in developing and addressing Essential Questions (EQ) in regard to past, present, and future endeavors.

¹⁶² Ibid, 112.

Learning Space Approach: Terminology (‘Ōlelo Hawaii and Proverbs)

The fact language is integrated throughout Kanu's educational system provides an opportunity for cultural practices and contemporary life styles to be integrated with learning. ‘Ōlelo Hawai‘i (language) and no‘eau (proverbs) establish the framework for daily lessons within both project sites and the school itself, and establish the foundations for cultural terminology to be implemented as a design planning strategy.

Hawaiian language and proverbs in the spatial layout of the new school will enable users to be culturally aware of projects, course subjects, social interaction, school circulation, and learning methodologies.¹⁶³ Cultural terminology further assists with the development of planning concepts and initiatives.

Ancient and Modern

It is important to note that Kanu's curriculum consist of understudies placed in their natural environments, sites close and dear to their personal identities as locals. This learning approach allows for the implementation of innovative design strategies and technologies in a contemporary context. For understudies, this approach allows for their sustenance as natives, participating in traditional routines and practices while simultaneously advancing through the contemporary educational system. This instructive methodology enabling understudies to exist in both worlds develops their comfort and awareness of both formal and informal life settings, and/or professional careers.

The correlation of traditional professions with contemporary careers and curriculum has implications for the new charter school's layouts. The development of cultural learning worlds within the conceptual master plan will enable understudies to realize their ancestors sustained a fundamental way life no different than that of today. In traditional times learning was useful, expertise-oriented, socially valuable, in line with reality and sustainably mindful. It was based on the learner observing, listening, and then

¹⁶³ Ibid, 112.

doing.¹⁶⁴ In this type of learning environment, understudies, facilitators, and community members will all be afforded the opportunity of learning directly relevant skills related to their community.

Conclusion

As Kanu o ka Āina has become a successful model of schooling rooted in the Hawaiian world view perspective, so too will the development of the conceptual master plan for a hybrid educational model of a new public charter school outlined in this thesis. Innovative curricula and teaching methods, dedicated instructors, and a belief in the Hawaiian culture are the key factors in developing the new school's structure. This author is no expert in the development of school curricula and structure but has been inspired by Kanu o ka 'Āina and will use their curriculum and structure as a guide.

The two case studies - Dane Court Grammar School and Kanu o ka 'Āina - relate to the overall theme of the project, and is conceptually viewed as the tendons and ligaments formulated in the knee diagram in reverence to the traditional naming of the Nānākuli community, further discussed in Chapter 6: Research Synopsis.

¹⁶⁴ Culture-Based Education and Its Relationship to Student Outcomes, Shawn Kana'iaupuni, Brandon Ledward, 'Umi Jensen, September 2010, 3.

Chapter 5: Community Integration

Introduction

This chapter will evaluate community programs that utilize community leaders within the Wai‘anae Coast. These programs afford youth the proper guidance and opportunity to be successful. Some provide youth with connection to their cultural heritage or to careers of interest. These programs are relevant to the proposed project of this thesis as they cater for a variety of learners in different ways and spaces. This reflects the goal of the conceptually master planned education model to build a conducive learning environment for all. The programs that will be outlined in this chapter are: MA‘O Organic Farms, Searider Productions Academy, Ka‘ala Farm, and the coaching of extracurricular activities. All provide cultural, educational, professional, and sports programs for a variety of youth.

MA‘O Organic Farms

Background

With high hopes, MA‘O Organic Farms (Mala Ai Opio) set out to change the Wai‘anae Coast, with founder Gary Maunakea-Forth setting a goal "to build a strategy that would impact five critical areas of need: out-of-school youth, sustainable economic development, agriculture, health, and Hawaiian culture. Youth leadership and social enterprise development became our core objectives, with strategies to build a localized movement to put the value of aloha “‘āina (love of the land) into action".¹⁶⁵

¹⁶⁵ Regina Gregory, USA-Hawaii (Oahu)-"MA‘O Organic Farm: Growing Food and Empowering Youth", last modified June 2008.

Mala 'Ai 'Opio Community Food Security Initiative became the Wai'anāe Community Re-Development Corporation (WCRC), main objective, comprising two components: 1) creating an organic farm, and 2) building an ongoing relationship with educational programs. "The project got off the ground with grants from the Bank of Hawai'i, the U.S. Department of Health and Human Services (Native American Program), and the U.S. Department of Agriculture. Currently grants make up 40% of MA'O's budget; sales 40%; and donations the other 20%. This is expected to change as sales grow."¹⁶⁶

At MA'O Organic Farms various types of produce are farmed, such as herbs and spices, oranges, cabbage, mustard, kale, eggplants, lemons, mangos, beets, radishes, chard, and tangerines. MA'O not only attracts consumers, but its biodiversity creates a habitat for birds and beneficial insects. MA'O also uses the intercropping practice instead of large-scale monocropping methods. The intercropping method and the biodiversity of MA'O Organic Farms helps protect its crops from disease and rids the farm of non-beneficial insects.

Philosophy

According to Kamuela Enos, co-director of MA'O Organic Farms, the perfect relationship between 'āina and man lasted for hundreds of years and was based on hana, which he describes as a responsibility to yourself, your community, and your 'āina (land). MA'O Organic Farms incorporates the hana philosophy, leading it to grow beyond a farm and into a self-sustaining component of the Wai'anāe community. Its intention is to produce community leaders who are immersed in a self-supporting cultural system that has existed in Wai'anāe long before foreign contact.¹⁶⁷

Application

¹⁶⁶ "Growing Food and Empowering Youth", last modified June 2008.

¹⁶⁷ "YouTube", accessed May 6, 2015, <https://www.youtube.com/watch?v=zeZVXfFL6YI>

In 2001, MA‘O Organic Farms (Mala ‘Ai ‘Opio) opened its 5 acre operation with a new and innovative way to produce young farmers within the Wai‘anae district. Co-founder and managing director Gary Maunakea-Forth, his wife and several others decided to restore the community’s cultural identity.¹⁶⁸

Over the years MA‘O has expanded its business to supply many of O‘ahu's top chefs and produce stores. Stores on the Wai‘anae Coast such as Tamura Superette, Foodland and Wai‘anae's Farmers Market, along with Mākaha Resort, all sell or serve MA‘O's locally grown produce. The restaurant at Wai‘anae Coast Comprehensive Health Center is expected to provide an additional local market.¹⁶⁹

Wai‘anae Intermediate and High School Programs

MA‘O collaborates closely with Wai‘anae Intermediate and High School, providing various workshops and programs to educate youth in cultural farming practices, inspiring them to grow and cultivate their own food. MA‘O has built a relationship with Wai‘anae High School’s Natural Resource Academy Agriculture Program, helping to establish Hawai‘i's first public school certified on-campus organic garden. Understudies gain hands-on experience in the garden, classroom, and field trips. Organic farming is not only brought to their campus, but to their home as well. Each spring, 15 Wai‘anae understudies join a paid internship program, collaborating with the school’s garden and MA‘O Organic Farms to learn farming, entrepreneurship, and how to prepare organic produce for consumption.

Purpose and Benefits

MA‘O Organic Farms is accomplishing its goals of reaching out-of-school youths, sustainable economic development, agriculture, health, and Hawaiian culture, all

¹⁶⁸ Regina Gregory, USA-Hawaii (Oahu)-"MA‘O Organic Farm:" Growing Food and Empowering Youth, last modified June 2008, <http://ecotippingpoints.org/our-stories/indepth/usa-hawaii-mao-organic-farm-empower-youth.html>.

¹⁶⁹ "Growing Food and Empowering Youth", last modified June 2008.

within the Wai‘anae Coast region. Their farming helps to sustain their community, while at the same time immersing youth in education and culture outside of school.

Understudies are physically and mentally engaged in their culture as Hawaiian farmers. Some are also spiritually engaged. Their engagement restores a connection to the land, their community, and heritage. Farming and caring for the land has slowly diminished in Hawaiian culture as a result of the removal of Hawaiian farmers off their own land.

Youth involved in MA‘O Organic Farms’ programs are being fostered in an environment where they are connected to the land and their cultural heritage once again. They learn the Hawaiian concept of farming; not yielding a one-time harvest, but understanding the soil's ability to cultivate and facilitate long-term farming for future sustenance. The farm teaches life lessons which youth can use in their development as future community leaders.

M‘AO Organic Farms’ intern Jane Doe states “I learned that it wasn’t only about farming, but it was a mix of organic farming and the Hawaiian culture.”¹⁷⁰ Another intern, Sana, has finished her associate degree at Leeward Community College, and is now continuing her education at the University of Hawaii at Mānoa, pursuing a Bachelor's degree in Hawaiian Studies, all while still working full-time on the farm.

Community Leaders

M‘AO Organic Farms "produces young community leaders by hiring youth between the ages of 17-24 from the Wai‘anae district. Youth are given a monthly stipend of \$500-\$600, while receiving a full tuition waiver to community college, with the goal of obtaining their associates."¹⁷¹ As full-time college students and farmers, some become managerial leaders in charge of groups of either 3 to 5 youth working on the farms. They

¹⁷⁰ "More Than Just Farming", last modified November, 2010.

¹⁷¹ "Growing Food and Empowering Youth", last modified June 2008.

are not only being used as workers, but developed into leaders who run day-to-day farming operations.

MA‘O Organic Farms has provided the youth of Wai‘anae with the opportunity of receiving post-secondary education, while becoming an integral part of a system which is continuing to change the organic farming mindset within Hawai‘i's shores.

Upon completion of school and the rigorous internship program, some graduates become salaried employees at MA‘O Organic Farms. These former youth mentees become college graduates and leaders within their community who now mentor and reach out to other Wai‘anae youth.

Searider Productions Academy

Background

Searider Productions Academy (SPA) is a digital media training program for understudies from grades 10-12 at Wai‘anae High School. Currently housing roughly 400 understudies who come early and leave late, the program generates the type of atmosphere to help keep youth off the streets and in the classroom. It allows understudies to be imaginative, creative, and responsible, providing them with real-world skills which applies to both other school work and also life immediately after high school.¹⁷² . Many youth in this program are placed in an environment which develops their leadership, speaking and business skills.

¹⁷² "The Power of Media: Engaged Students", last modified December 8, 2010, <http://www.civilbeat.com/2010/12/7263-the-power-of-media-engaged-students/>.

Like MA‘O Organic Farms, the Searider Production Academy has set a precedent for 21st-century classroom learning and is acknowledged by the national education community. It provides its youth with the key elements of success: leadership and collaboration opportunities, vocational training, technology and critical thinking skills, along with room to develop their creativity.¹⁷³

Philosophy

As SPA teacher Candy Suiso states, “Our whole philosophy is grooming our own in our community.” “Get the kids off the streets and into college and get them to return and give back to the community.”¹⁷⁴

While teaching at Wai‘anae High School in 1993, Suiso, a Spanish teacher, found an old VHS video camera to be her most resourceful tool in engaging her understudies with learning. Giving her understudies assignments such as videotaping skits and dialogues and watching the positive effect this had on them, made her realize this was the hook for learning.¹⁷⁵

She witnessed her understudies blossoming and expanding their creative worlds. Amazed by the singing, dancing, and creative art talents she discovered, Suiso was inspired to introduce her understudies to high-tech tools. With the help of a \$45,000 Hawai‘i Department of Education grant, Suiso and her colleague Norman Chuck were able to create a video learning center within the Wai‘anae High School grounds. They started off with "two non-air-conditioned classrooms, one edit bay, four video cameras and 85 initial understudies. They offered just one course: video production."¹⁷⁶

¹⁷³ "The Power of Media: Engaged Students", last modified December 8, 2010.

¹⁷⁴ "The Power of Media: Engaged Students", last modified December 8, 2010.

¹⁷⁵ "The Power of Media: Engaged Students", last modified December 8, 2010.

¹⁷⁶ "The Power of Media: Engaged Students", last modified December 8, 2010.

Purpose

SPA has been developing college and career-ready understudies since opening its doors in 1993. It has enabled over 2,000 understudies to develop the skills necessary to become journalists, graphic designers, editors, philosophers, 3D-animators, and artists on completion of high school.

Upon completion youth leave the digital media program as leaders who are self-directed with the high quality business, technological, and artistic skills. The SPA has evolved to run like a college department, allowing its understudies to manage daily broadcast, publication, and radio operations, while offering a variety of courses related to each specialized field.

Community Leaders

A very rewarding part of the program is that many of its understudies return back to the school as either part-time staff or full-time teachers. "Also among those who returned is John Allen III. He has earned three regional Emmy Awards for his work with local TV news stations, and has returned in 2004 to become a video adviser and systems manager for SPA. He also founded Mākaha Studios, which harnesses the talent of many Searider students and alums to help improve the community."¹⁷⁷

The underlying philosophy of giving back is apparent in the operations of both MA‘O Organic Farms and the Searider Productions Academy. These two programs believe in each other's success and commitment and decided to band together with Mākaha Studios to form Kauhale Digital Media Halau. Three entrepreneur programs have since been developed to help keep youth on the graduation path in both high school and college, while at the same time building home- grown community leaders. Cohort of

¹⁷⁷ "The Power of Media: Engaged Students", last modified December 8, 2010.

industrious young men and women in these programs are committed to returning, giving back, and continuing to make a positive difference within their communities.

Ka‘ala Farm

Goals

The mission of Ka‘ala Farm is to reclaim and preserve the living culture of the Po‘e Kahiko (people of old) in order to strengthen the kinship relationships between the ‘āina (land, that which nourishes) and all forms of life necessary to sustain the balance of life on these vulnerable islands. To many its mission is considered to be cultural kipuka where Hawaiian traditions are carried forth to make both people and their communities stronger. ¹⁷⁸

Philosophy

If you plan for a year, plant kalo.

If you plan for ten years, plant koa.

If you plan for a hundred years, teach the children ‘āloha ‘āina.¹⁷⁹

According to Eric Enos, Ka‘ala Farm co-founder and Executive Director, this philosophy teaches an important value to youth that the sustenance and restoration of culture and life is dependent on the land, and its ability to yield future return.¹⁸⁰

Purpose

The Ka‘ala Farm project initially started as the Wai‘anae Rap Center for alienated youth. A local non-profit organization leased 97 acres of former ranch land in Wai‘anae

¹⁷⁸ Ka‘ala Farms, accessed January, 2016, <http://kaala.org/learn/>.

¹⁷⁹ Ka‘ala Farms, accessed January, 2016, <http://kaala.org/learn/>.¹⁷⁹ Regina Gregory, Restoring the Life of the Land: Taro Patches in Hawai‘I, (USA - Hawaii), accessed January, 2016, <http://ecotippingpoints.org/our-stories/indepth/usa-hawaii-taro-agriculture.html>.

¹⁸⁰ Regina Gregory, Restoring the Life of the Land: Taro Patches in Hawai‘I, (USA - Hawaii), accessed January, 2016, <http://ecotippingpoints.org/our-stories/indepth/usa-hawaii-taro-agriculture.html>.

Valley from the state for "youth development" and sent youth camping there. After a little exploration and research, the youth recognized it as an ancient taro system, 300-600 years old, and decided to set about restoring it.

Application

Today, Ka‘ala Farm hosts about 3,000 elementary and intermediate school understudies from the Wai‘anae region per year. The youth learn about the place and the old ahupua‘a land-and-water management system (watershed). They plant, weed, harvest, and eat taro. They learn other useful skills such making poi, kapa (bark cloth), and woven mats. Ka‘ala Farm also offers a setting for an interdisciplinary high school curriculum in conjunction with the Hawaiian Studies Center at Wai‘anae High School. Understudies learn about topics such as archeology, natural resource management, geology, biology, hydrology, and agriculture in Ka‘ala Farm’s outdoor classroom. This hands-on learning is far more effective than reading books, especially for native Hawaiian understudies. Ka‘ala Farm’s outdoor learning spaces facilitate learning in an environment closely related to traditional practice to understudies in the Wai‘anae region. This model of learning provides the opportunity for Hui or multi-age learning for understudies and the community. Besides the high-quality, hands-on, place-based education and free labor, this is a great way to disseminate taro according to Ka‘ala Farm's booklet on kalo basics (Enos & Johnson 1996).¹⁸¹

Ka‘ala Farm also serves as a work therapy site for people in local substance abuse treatment programs, and as a community service site for those who need to undertake community service hours, or who just want to volunteer.¹⁸² These are unique components of the program, making Ka‘ala Farm relevant to a wide variety of people.

Extra-Curricular Programs:

181 Regina Gregory, Restoring the Life of the Land: Taro Patches in Hawai‘I, (USA - Hawaii), accessed January, 2016, <http://ecotippingpoints.org/our-stories/indepth/usa-hawaii-taro-agriculture.html>.

182 Regina Gregory, Restoring the Life of the Land: Taro Patches in Hawai‘I, (USA - Hawaii), accessed January, 2016, <http://ecotippingpoints.org/our-stories/indepth/usa-hawaii-taro-agriculture.html>.

As soon as Nānākuli opened its doors in 1972, its extracurricular programs became a major component in building communal pride. Although over the years these programs have been successful in many ways, today's sporting activities have evolved to be like MA‘O Organic Farms, SPA, Ka‘ala Farms by implementing unconventional methods to reach out to understudy-athletes.

As an example, in the past Nānākuli's football program has only concerned itself with wins rather than academia. This mentality has hindered the school's extra-curricular programs and graduates in many facets. Although many talented athletes experienced success upon Nānākuli's grassy field, the majority have fallen short when subsequently trying to achieve success as college athletes. The current Nānākuli High football program has taken the unconventional route of treating their players as understudies first and athletes second. A group of young alumni lead by head football coach Keala Watson had all experienced success in both sport and academia and felt the need to make a difference in their community. They saw fit to do it through football, the very sport which had enabled each of them to continue their post-secondary education.

Philosophy

These young coaches understood that their players' physicality and natural abilities already existed, but that their general lack of academic standing would ultimately become their biggest adversary. They decided to preach and carry out their new philosophy - understudies first, athletes second. Academic study sessions were held before and during practice if necessary. The coaches restricted the athletes' opportunity to participate in all football program activities if they didn't reach academic benchmarks in grades, school attendance, and behavior.

The coaches also provided these young understudy-athletes with the opportunity to perform monthly community service hours and fundraising within the community in order to participate in outer island league games. Over time, the understudy-athletes began to buy into the new system. Their parents, siblings, and peers all showed their

support by attending every sporting event. The program became successful both on and off the football field.

Application

Not only did the program win football championships, it produced understudies who were amongst the honor roll and principal's list recipients. These academic achievements for athletes were previously uncommon at NHIS, especially in the football program. People began to see change, not in terms of winning records, but how these young understudy-athletes carried themselves and represented their community.

In 2014, Nānākuli Valley witnessed one of its greatest football seasons. The team finished the season undefeated, and won the D-2 championship and a berth in the state playoff tournament. The community marveled at the success of their loved ones, and attributed the success to the program's new philosophy. In recent years, several other school sports have also implemented a similar philosophy to the football program. Girls' softball, soccer, and basketball have all had success and developed pride within the community, especially the three-time D-2 girls' softball champions. Without academic standards understudy-athletes will generally only become part-time academic achievers, ultimately diminishing their college credibility.

Nānākuli's football program success is not marked by championships or grades, but rather the development of young men and women who are able to bring their community together through sport. Success was also measured by the numerous understudy-athletes who have gone on and continued their education, participating in college sport, and earning college degrees. Sports have opened the gates for these youth, but academia has paved the way. The goal of advancing their youth onto post-secondary education is becoming a reality and an integral asset of the Nānākuli community.

However, although the NHIS football program's new philosophy has seen success within a short time since its implementation at the school, many understudy-athletes still lose sight of academia once the football season ends. Those youth who develop resilience

in their education and culture tend to be ready to carry it on to the next phase of their life in either college or a career.

Community Leaders

The coaches of Nānākuli's football program all have experienced what sport has to offer and what it can do for the youth in their community. Football has brought these coaches back to become leaders within the community, and they are currently using it to develop other leaders rooted in both academia and athletics. The understudy-athletes who embrace the program and its philosophies will one day fill their shoes as community leaders.

Summary

The SPA digital media training program is the most widely applicable program analyzed in this chapter as it potentially appeals to all understudies, especially those who longing to be accepted by their peers. In most school activities understudies tend to associate with others who play sport, but as the SPA, MA‘O Organic Farms’, and Ka‘ala Farms programs demonstrate, not everyone is suited to play sports. The SPA program allows understudies to find themselves through their creativity, whether it be via graphic design, photography, broadcasting, or journalism. Both MA‘O Organic Farms and Ka‘ala Farm enable understudies who are interested in agriculture and sustenance of the mind, body, and spirit with the opportunity, knowledge and expertise to engage in these pursuits. Extracurricular activities act as a vehicle for those who enjoy the physical aspects of life and help keep them busy and potentially out of trouble. Youth are able to foster areas of interest in an environment that effectively prepares them for life and a career after school.

Conclusion

The above programs are all well suited to be integrated into the design of a new public charter school in Nānākuli, developing understudies into community leaders via

unconventional methods. The proposed new school will move away from conventional learning and incorporate culture and education not only in its curriculum, but also as an integral part of its layout and design. It will not require facilitators from faraway places, rather those who are already highly qualified from within the local community. The school will develop its understudies culturally and educationally, effectively preparing them for college and careers, potentially able to return and give back as community leaders in the future. The proposed unconventional public charter school will set the precedent for learning and restoring prosperity and cultural identity to the community.

The integration of communal programs into the school system has emerged as a key component in helping to build a strong and vibrant learning environment. Programs as MA‘O Organic Farms, Searider Productions, Ka‘ala Farms, and extracurricular activities will provide the proposed new education model with the opportunity to integrate culture, cultural facilitators, digital media, and sport into an unconventional learning environment. These learning and teaching methods will be implemented in extended learning areas within the school such as gardens/a nursery, lo‘i Kalo, traditional arts, an observatory, and digital media spaces. It will also include the restoration of native habitat.

Chapter 6: Research Synopsis

Introduction

The goal of this chapter is compile the research conducted and provide the reader with a clear understanding on how it has influenced the conceptual master planning process.

The research has revealed a fundamental underlining element within the background of Nānākuli, which is its name. All interpretations of this name reference the human anatomy of the "knee". Nānākuli's name is broken down as follows:

Nana, translates to "look"
and
kuli, to "knee or deafening."¹⁸³

The misconception and incorrect defining of the ahupua'a name over many years has become the driver of this culturally-informed conceptual master plan. It is a master plan for a hybrid educational model that fuses traditional Hawaiian worldviews, guiding principles, values and learning styles into the contemporary context.

The anatomy of the knee will be dissected into components and will be cross-referenced to both Hawaiian and contemporary context. This will result in a conceptual master plan that connects the design with research. The following chapter summaries are incorporated in table 6 and figure 19, helping to illustrate how each chapter informs the conceptual master plans' design process.

¹⁸³ Sterling, Elspeth P., and Catherine C. Summers. *Sites of Oahu*. [Rev. ed. Honolulu: Dept. of Anthropology, Dept. of Education, Bernice P. Bishop Museum, 1978, 62.

Chapter 1 Synopsis: Cultural Displacement: Wai‘anae Moku (District), Ahupua‘a of Nānākuli

This chapter is associated with the major bone components which make up the human leg. In the Hawaiian culture iwi (bones) are considered sacred, and are believed to possess one’s mana (spiritual powers). Bones of kin are important in connecting native Hawaiians to their descendants. Just as our ancestors are considered to be an important component of our cultural foundation, the femur, patella, tibia, and fibula bones are important components of the leg. In traditional times, the bones of deceased kin were buried in a special and sacred place to avoid one’s family lineage and mana from being stolen or displaced. The selected site provides the opportunity to link the community with their ancestors, as it is sacred and set high in the majestic Valley. It will become the piko of the Valley for several reasons. First, the surrounding area will be the site for the future development of a Hawaiian Homes community. Second, an assessment of cultural elements as part of this research has revealed that the site is at the center of the Valley. The concept of site placement via a piko will be further discussed in Chapter 8: Ho‘oiwi, Conceptual Master Planning.

Chapter 2 Synopsis: Culturally Relevant Learning

This chapter is referenced as the tendons and ligaments of the human leg as it conceptually refers to those components which anchor the muscles and bones together as a functioning unit. The chapter outlines ‘āina learning (extended learning areas) and cultural facilitators (kūpuna) as components to anchor youth to their ancestors - (referenced as iwi (bones)) - through education, enabling them to appreciate both the ancient and modern world. The proposed isolated site for the school in the upper Nānākuli Valley will be suitable for the development of extended learning areas and will also influence understudies to anchor themselves to their cultural past. This will be enhanced by the Valley's open environment and its cultural elements.

Chapter 3 Synopsis: Nānākuli School Systems

This chapter is referenced as the major muscles of the human leg as it conceptually refers to those components which provide strength to keep the body upright. As the legs are considered a foundation of the human body, their strength characteristic will be associated with the skill sets, knowledge, and readiness of youth. As there are schools systems within the given locale that already provide some aspect of academic strength, the proposed new public charter school will look to further exit youth who are effectively prepared to pursue any career of interest.

Chapter 4 Synopsis: Case Studies: Innovative Learning Environments

In the human anatomy of the leg the iwi kamumu (cartilage) component is made of protein, sugar, and water - which all act as absorption elements to relieve the stress and pressure between joints and bones. Similarly the two presented case studies in Chapter 4 serve as a guide for the master planning of the proposed new charter school, helping to coordinate curricula, planning strategies, and learning methods that are conducive to the goals of this project. These guides are viewed as design elements, and in several aspects are overlaid with cultural perspectives.

Chapter 5 Synopsis: Community Integration

This chapter is referenced as the tendons and ligaments of the human leg, anchoring all major components as a single unit. The information extracted in Chapter 4: Case Studies indicate that an integral aspect in the creation of a conducive learning environment is the integration of community. Communal involvement allows cultural practitioners, professionals, family, and kin to help and link understudies to their existing environment or other related areas of interest. As mentioned, programs such as MA‘O

Organic Farms, Searider Productions, Ka‘ala Farms, and extracurricular activities (sport) will be integrated within the proposed new public charter school to provide knowledge and professionalism in extended learning areas (‘āina induced learning), digital media classes, or others curricula of interest.

Chapter 7 Synopsis: Cultural Site Analysis - Ahupua‘a of Nānākuli

This chapter is referenced to the skin of the human anatomy which aids in protection against harmful elements. The skin acts as a sensory mechanism which regulates body temperature based on external conditions, and so too will the cultural site analysis in regulating culturally charged elements found within the region. The cultural site analysis conducted in some aspect as the traditional architect, Kuhikuhiu‘uone, will enhance the cultural knowledge and understanding of the proposed site.

Chapter 8: Ho‘oiwi, Conceptual Master Planning.

Ho‘oiwi translates as "to become skin and bones" Through the merging of all chapters, the hybrid educational model is finally revealed in through the constant driver of identity. Therefore, this chapter will allow the proposed educational model to manifest through culture, education, and community integration, becoming the "skin and bones" as the conceptual master plan.

Table 6: Research to Planning Elements

| | Chapter 1 Cultural Displacement | Chapter 2 Cultural Learning | Chapter 5 Community Integration | Chapter 3 Nānākuli School Systems | Chapter 4 Case Studies | | Chapter 7 Site Analysis |
|-------------------|---|--|---|--|---|--|---|
| Research | Ancient/Historical Background | Traditional Learning, Project and Place- Based learning | Community Programs | Background Information | Dane Court Grammar School | Kanu o Ka 'āina Charter School | Conventional site analysis, Cultural site analysis |
| Extracted | Cultural Identity, Cultural Elements | Kūpuna (Teacher), Environmental classes | Certified Facilitators, Cultural Practitioners | | Heart/Flex space, Learning worlds, Learning path diagram, Terminology, Landscape strategies | Hui multi-age group projects, Language and proverbs, Environmental awareness projects, Community engagement | Application of culturally-charged elements |
| Inform | Site Selection, Piko (Center) | Kupuna, Extended learning spaces Community Integrations | | Public Charter School | Design Elements | | Initial design process for campus layout |
| Knee Component | Bones (Femur, Tibia, Fibula) | Tendons and Ligaments | | Muscles (Quads, Calf Hamstrings) | Cartilage | | Skin |
| Hawaiian | Iwi ku | A'a pu'u pu'u | | I'o huki | Iwi Kamumu | | I'i |
| Reasoning | Link to ancestors | Anchoring of muscles and bones | Hui multi-age learning | Upholds, Relieves stress, Strength | (Made of water, proteins, sugars) Absorbs pressure on joints | | Protection, sensory, |
| Concept | Foundation | 'Āina Learning Spaces (Environmental Learning) | | Life, college, career-ready | The in-between elements absorbed via case studies. | | Ike papalua (second sight) |

Source: Author

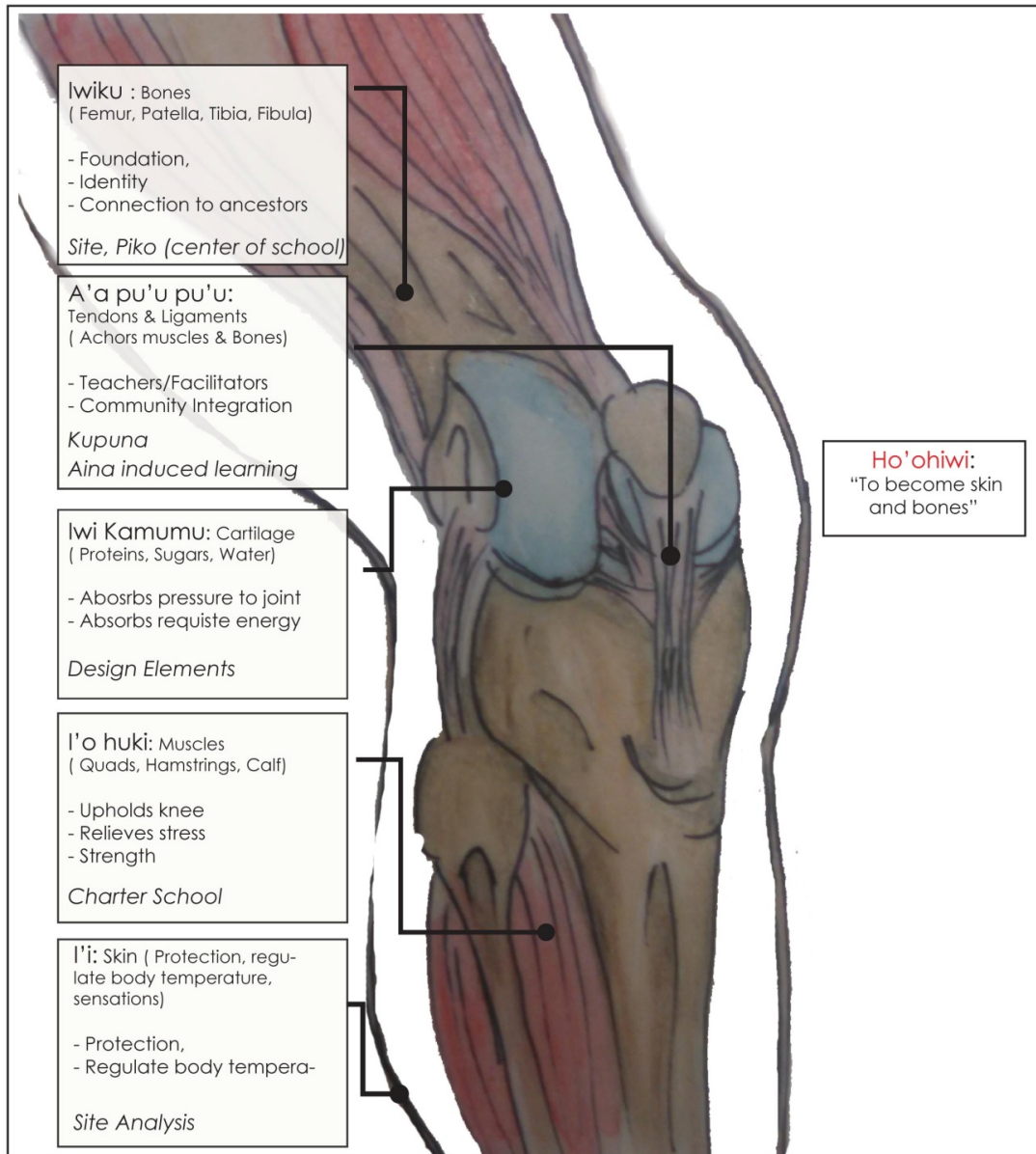


Figure 19: Knee diagram.
 Source: Author

Conclusion

Each component of the knee has been broken down and its function viewed within a cultural lens in a correlation with the components and functions of the proposed new charter school. This process of cultural identity has guided the development of a conceptual master plan that stimulates both outdoor and indoor learning environment that is culturally relevant and sensitive.

Chapter 7: Cultural Site Analysis - Ahupua‘a of Nānākuli

Introduction

As mentioned by Ms. Mary Pukui, "ho‘omaka mai konohi mai"(begin with the beginning), or "ha hua o ka pū‘ao" (with the seed in the womb).¹⁸⁴

This proverb applies to the understanding and selecting of the new school site. Obtaining and understanding extensive knowledge of the site helps guide the design process in providing an end product that is considerate and sensitive of place, people, and surroundings. In the Ahupua‘a of Nānākuli many interpretations of its identity have been removed, and this has led to the negative and misinformed stereotypes of today. Therefore, an understanding the site beyond a contemporary site analysis is necessary, searching deeper into the cultural fabric to create and re-establish the lost connection and identity. A useful starting point for finding this connection is to analyze the past in the way in which the Ka Poe Kahiko (people of old) conducted such analysis.

In traditional times, native Hawaiians used the term Kuhikuhū‘uone, which translates to "point out the sand dunes", when referring to an architect or builder. The Kuhikuhū‘uone held extensive knowledge as to the specific location of a hale (house), heiau (place of worship), or Loko i‘a (fish pond). The Kuhikuhū‘uone belonged to a special class of Kahuna (priest) who possessed an intimate connection with the spiritual realm or second sight, and advised in building processes. In other cases, these Kahuna were advisors to high ranking chiefs in matters of politics and warfare. An extensive connection with the spiritual realm allowed the Kuhikuhū‘uone insight into the past, present, and future. This guided and delivered a balanced result between structure, ‘āina (site), kanaka (man), and Akua (god).¹⁸⁵

¹⁸⁴ Pukui, Mary Kawena, E.W. Haertig, and Cathine A. Lee. *Nānā I Ke Kumu= Look to the Source*. Vol.II. Honolulu: Hui Hanai, 1972, 65.

¹⁸⁵ Lori Walker, *Architecture Ma Ka Olelo Hawaii*, 65-69.

Information provided has already been noted in previous chapters of this doctorate project. This analysis will analyze this research and organize it in a way which provides an understanding of the school site (place) in the Hawaiian worldview perspective, and how this can be integrated with contemporary methods. First, a contemporary site analysis will be conducted and presented in methods used today. Second, a cultural site analysis will be completed, expanding beyond the parameters of a contemporary analysis in search of a more place-driven site analysis.

This part of the analysis will be guided by a thesis written by Lori K. Walker, *Architecture Ma Ka Olelo Hawaii: Relearning How to Think About Design in Hawaii Using Hawaiian Language as a Foundation*. Lori Walker developed a design process which incorporated culture in order to create a better site understanding based upon Hawaiian values and traditions.

Conventional Site Analysis

The techniques and methods utilized today in a standard site investigation can be useful from numerous perspectives. For example, data relating to topography, climate, geotechnical/soils, utilities, and so forth help to inform the building procedure. These data strategies are similar to those utilized by the Kuhikuhūʻuone; however data that was assembled in a traditional sense by the Kuhikuhūʻuone via a process analyzing profound characteristics generated over a period of time provided a broader context. The following section will outline a contemporary investigation of the selected site and environment.

Site Analysis

The chosen site for Nānākuli Middle lies within the Ahupuaʻa of Nānākuli, in the Waiʻanae region of Oʻahu. Situated about two-thirds into the upper Valley, the site lies on Department of Hawaiian Home Land (DHHL) property just below the Nānākuli Forest

Reserve, and is zoned as AG-2 (Agricultural-2). Over mountain ranges to its right lies traditional Honouliuli, referred to today as Kahe Point and Honokai Hale, both located in the Ewa region. And to its left, lies Mai‘li, another ahupua‘a in the Wai‘anae district.

The site is approximately 840 feet above sea level and sits about 600 feet from the highest existing Hawaiian Homes housing development, which is located makai (seaward) within the Valley of the current site. Although relatively steep, the site’s location does not compare to the more steep sloping peaks further back in the Valley. The most northeast peak, Palikea, rises up to 3,000 feet above sea level. The site is also situated just below archaeological sites documented by archaeologist Ross Cordy in a field study from 1988-1991.¹⁸⁶ Beside these ancient structures there are no structures, utilities, or paved roadways surrounding the chosen site.

Due to its high elevation the site has a commanding 360 degree view of the Valley. Surrounded by majestic mountain ranges, the Valley imposes itself upon the site. Looking from west to east, these breathtaking mountain ranges are as follows. The west-most mountain range is known as Pu‘u Heleakala, then to the northwest is Halona Ridge, then swooping down and heading back north is Palikea (the back of the Valley), then heading east is Mauna Kapu, onto Palehua, and finally ending at Mauna Wahu in the south. These six ridgelines and a few other little pu‘u (hills) make up the majestic Valley and correlate with fundamental mo‘olelo associated with the Ahupua‘a.

¹⁸⁶ Cordy, Ross H. *An Ancient History of Wai‘anae: Ka Moku O Wai‘anae: He Mo‘olelo O Ka Wā Kahiko*. Honolulu, Hawaii: Mutual Pub., 2002. 82.

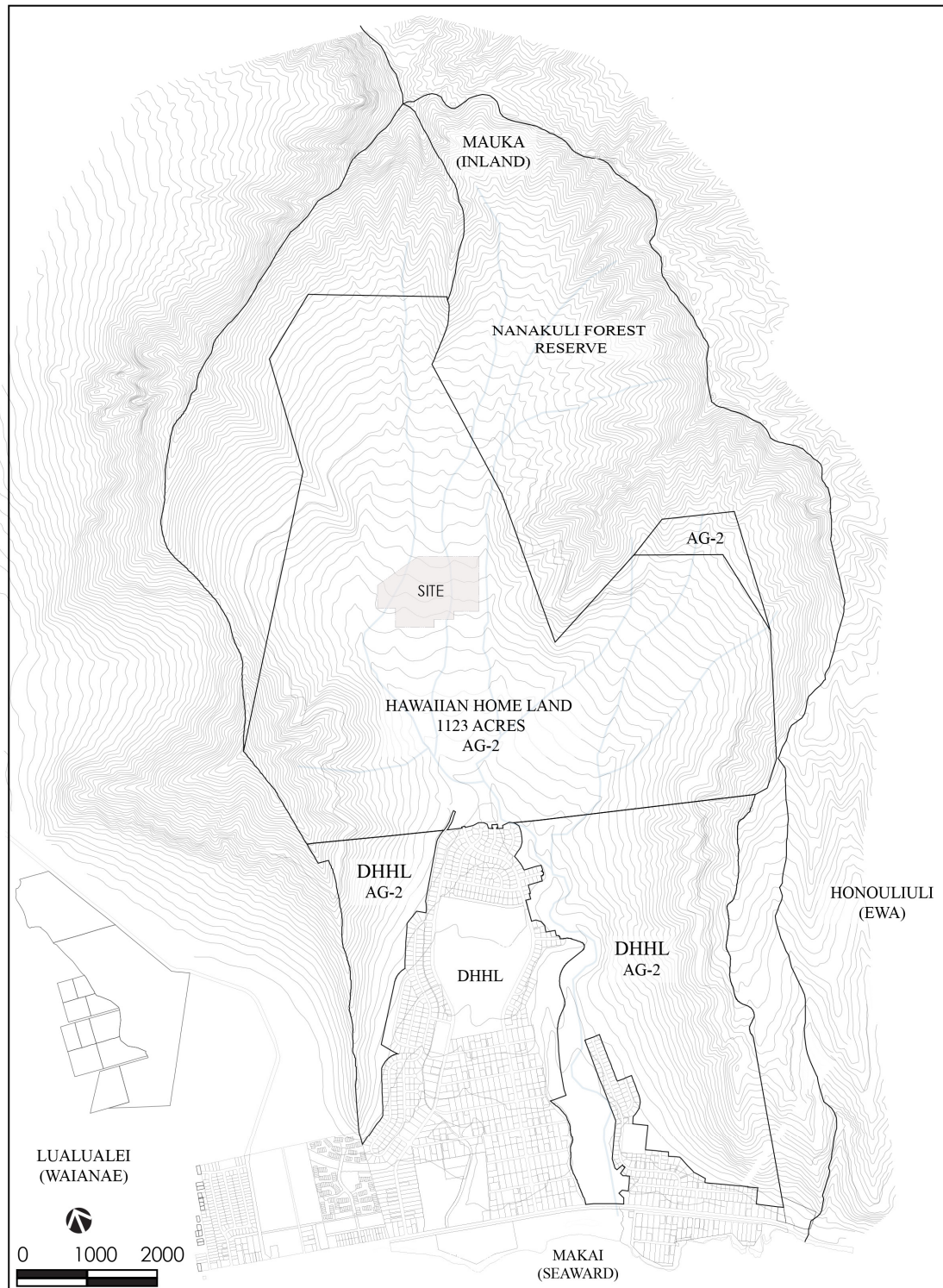


Figure 20: Nānākuli ahupuaʻa map.
Source: Author

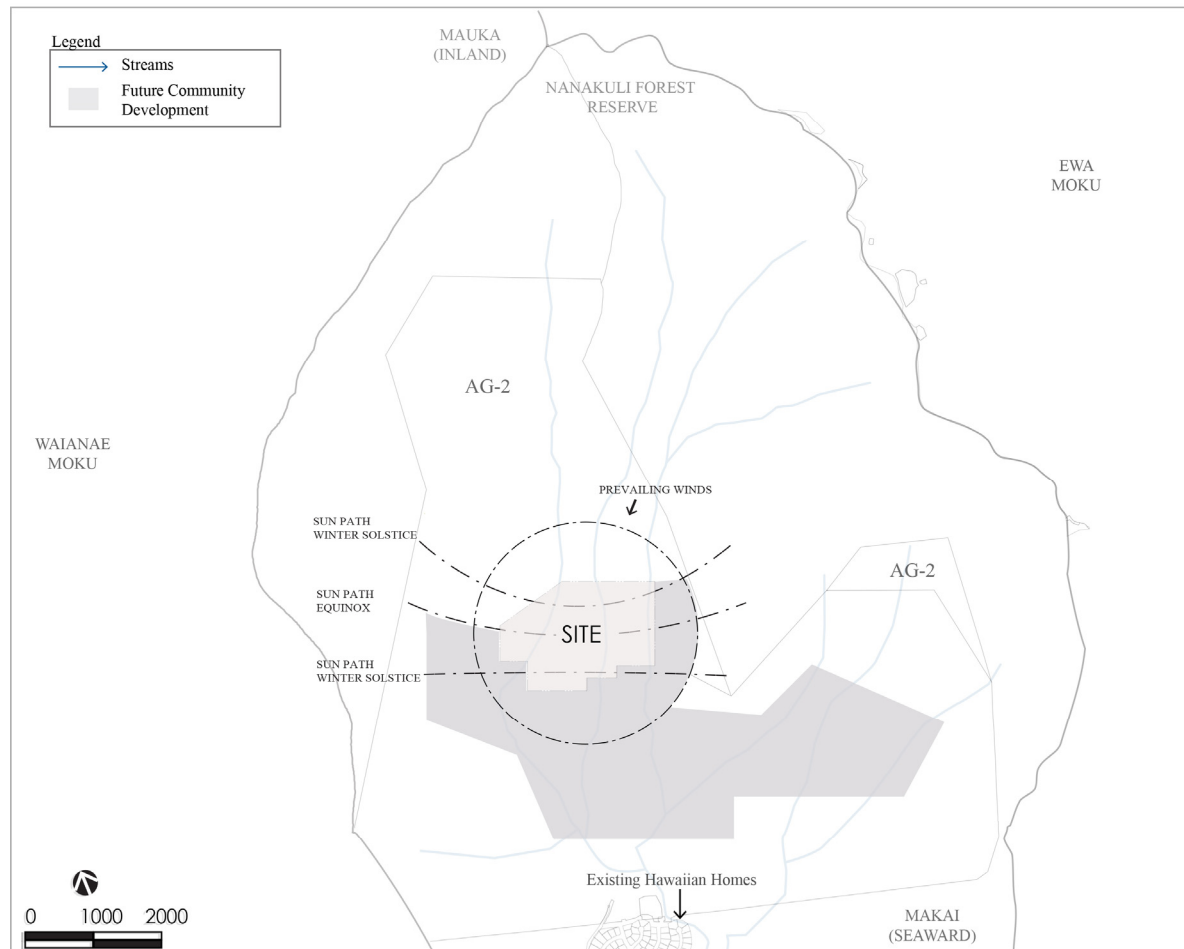


Figure 21: Conventional site analysis map.
Source: Author

A contemporary site analysis provides great insight into understanding the general correlations of a site and is the initiation of a design process. Although the analysis conducted in the previous section suffices for the present, a cultural site analysis will be done to enhance the cultural knowledge and understanding of the site, as if it was done by a Kuhikuhiu‘uone. Obtaining such data is dependent upon ongoing oral traditions, many of which may have been forgotten or be extremely brief. The information is contingent upon the amount of oral customs which have been practiced.

Cultural Site Analysis: Investigative Process

The cultural site analysis process begins with the initial gathering of information pertaining to a particular site in the context of a Kuhikuhiu‘uone (traditional architect), while using ‘Ike pāpālua (second sight). The analysis tries to portray, in the case of the project, "what the Valley is trying to say". The following are several ‘ōlelo terms/traditions used to better inform connection and knowledge with the site in the traditional context.

Piko (center, place of focus) - the term piko can imply and take on several meanings, such as a moku (district), Ahupua‘a (land division within a moku), ‘ili (land division within an Ahupua‘a). In special cases the piko can be the considered the entire island.¹⁸⁷

Wahi Pana (places that are celebrated and told through stories in Hawaiian cultural traditions) - these places have great significance to people who reside in these areas; they could be heiaus, sites associated with legends, and royal birthing sites. Wahi Pana is considered sacred and carries mana (spiritual power) and should be treated with care and respect.¹⁸⁸

¹⁸⁷ dlnr.hawaii.gov/dsp/files/2014/10/Wahi-Pana-brochure.pdf. Accessed August, 2015.

¹⁸⁸ dlnr.hawaii.gov/dsp/files/2014/10/Wahi-Pana-brochure.pdf. Accessed August, 2015.

Heiau (religious site and place of worship) - most heiau are structures whose design and size vary from very large rock walls/platforms, to small shrines made of koa. At these sites rituals and ceremonies are conducted. Only those with extensive knowledge of place and the spiritual realm, such as the Kuhikuhiauone, were allowed to oversee site selection and design process.¹⁸⁹

Mo'olelo (oral stories) - these stories are the intangible characteristics of a place or person passed down through generations of oral traditions. These stories are unique and are told through mele (song), oli (chant), 'ōlelo no'eau (proverb), and pule (prayer) that are associated with the place or person.

Inoa o laila (fixed or permanent) - consist of permanent physical features of place. Examples are heiau, pohaku (rocks), pu'u (hill), loko i'a (fish pond), kahawai, muliwai, punawai.¹⁹⁰

Inoa I laila (impermanent) - elements which are found at a particular place, but exist elsewhere. These elements are features such as fauna, flora, wind, and rains that describe the place and are also mentioned in stories in other places.¹⁹¹

Site Investigation

At this point, the use of 'ōlelo traditions mentioned in the investigative process will relate to specific elements throughout the site and Valley in regards to a Hawaiian worldview perspective. Taking this approach increases the knowledge and comprehension of the new charter school's natural surroundings; helping to guide a design process that is delicate and sensitive to local heritage, place, people, and culture. Furthermore, flowing charts provide a layout of these 'ōlelo traditions reflecting elements which may have been found in the Valley at one point in time, or which still manage to exist today.

¹⁸⁹ dlnr.hawaii.gov/dsp/files/2014/10/Wahi-Pana-brochure.pdf. Accessed August, 2015.

¹⁹⁰ Lori Walker, Architecture Ma Ka Olelo Hawaii, 77.

¹⁹¹ Ibid, 77.

Table 7: Culturally-Charged Elements

| | Olelo Element | Desription |
|--|---------------------------------|---|
| Piko | Unknown New Middle School | The traditional piko is unknown, because the intention of the new middle school is to help build a growing in place community, it will act as the new piko. |
| Wahi Pana [site that are celebrated and refered too through Mo'olelo] | Ilihune [Heiau] | A heiau believed to be located on the southeastern slopes of the Pu'u Heleakala Mountain. The Ilihune heiau had little structural remains at the time of McAllister surveying of the area, it later became used as a cattle pen. |
| | Habitation/Religious structures | Structures were reported by a cowboy in 1890: he states "high in the small gulches at the valley's head there are some abandoned terraces, stone platforms, and orange trees marking the sites of ancient Hawaiian habitations". Site 4211, is a rectangular enclosure with low walls that contains coral branches in both the walls and soil within the enclosure. It is known that coral branches are left behind by family members at shrines during pre-European contact. - Ross Cordy |
| Inoa o Laila [Fixed elements pertaining to a specific place] | Pu'u Heleakala [Pu'u] | Dividing Nānākuli valley from Luahalei, its name translates as "snare of the sun", or "broken rays of the sun". These names are associated with the demi-god Māui, and his conquest of holding back the sun. |
| | Palikea [Pu'u] | The back most range, peaks at 3,098 feet (944m) high and is a part of the Wai'anae range. |
| | Mauna Kapu [Pu'u] | Separates the Nānākuli valley and Honouliuli Forest Reserves and translates as "scared mountain. There is new evidence of this pu'u being sacred because of its vantage point of view in all directions. Several residents of the Waiānae coast claim to have experience supernatural events at the mountains peak. |
| | Palehua Mountain [Pu'u] | Translates to "enclosure of the warrior". In one case it refers to a place of warrior training in the traditional art of Lua Martial arts). a place of training and a strategic vantage point to for onlookers to see intruders from either direction. Its male association symbolically comes from the hardness of the 'ōhi'a lehua tree; it was also the wood of choice for the |
| | Maunawahu [Pu'u] | Translates as "great grief" or "nausea hill". |
| | Ili [portion of ahupua'a] | The divisions of Nānākuli valley is unknown, but in the Mahele claims of 1848 there is five claims to land in the ahupua'a. Out of these five claims, three claimant name different ili of the valley, Kaaape, Hapai, Kuamookahi. |
| | Nānākuli Stream | The main Nānākuli Stream runs on the southern side of the valley, starting below Mauna Kapu and Pālehua, sourced by springs. As these streams progress down the upper valley floor they soon meet up and adjoin on the on the 'Ewa side of the valley below Pu'u Maunawahu, then finally forming the Nānākuli stream and exiting out to sea at Zablan Beach Park. |

Source: Author

Table 8: Culturally-Charged Elements

| | Olelo Element | Description |
|--|---|--|
| Inoa o Laila [Fixed elements pertaining to a specific place] | Māui the Giant/ Māui's Rock | In one account a kupuna, a night security watchmen, at a job site known as Garden Grooves, in present day Nānākuli, tells the story of the giant Māui who is only visible in the early morning hours just before the sun rises. It is at this particular site where a large lime stone is split in two, and is believed to be the location where "Māui reposes". The giant is known to be made up of the valleys ridge lines and several others ridge lines including Haloa ridge and Kahe point. |
| Inoa i Laila [Impermanet features found in other places] | Māui [Oral Story] | View previous elements of Maui. |
| | Kaiaulu [Winds] | ‘ōlelo no‘eau, Ola ‘O Wai‘anae I ka malu Kaiāulu- Wai‘anae survives in the shade of the Kaiāulu winds. Kaiāulu are the winds of the Wai‘anae coast which crosses through the valley to soothe its tremendous heat. |
| Mo‘olelo Ko Laila [Oral stories of the place] | Māui [Legend] | Māui the famed Hawaiian hero is believed to have climbed to the top of Pu‘u Heleakala in efforts to hold back the sun. Several stories pertaining to the birth place of the hero in a nearby stream, known as Uleawa, in present day Nānākuli. Where the mouth of this particular stream reaches the sea, stroy tells of Māui and his brothers set out on many famed Hawaiian adventures. |
| | Ka‘opuhuhulu/ Kahahana [Oral Story] | Kahahana a high chief of the island of O‘ahu, was warned by his high priest Ka‘opulupulu to stop his unethical ambitions. In rebellion to the high priest, Kahahana decided to tattoo his lower knees, as a sign of his disapproval of the chief |
| | Māui the Giant [Oral Story] | |
| | Nānāku‘ulei [Naming/Oral Story] | Māui had several brothers and two sisters. One sister was Luualalei, which means “sacred wreath” and is the name of the ahupua‘a north of Nānākuli. The second sister was a beloved baby, named Nānāiku‘ulei, which means, “look to my pretty lei” |
| | Kuali‘i [Naming/Oral Story] | The name of “Nānākuli”, a section of Wai‘anae, meaning “knee examination”, is said to relate to an incident in the travels of the famous Kuali‘i, when his attendants wished to see and press his knees, to relieve the king’s fatigue after the journey. |
| | Dogs Barkening [Naming/Oral Story] | Wm. Z. H. Olepau, on March 20, 1933 shred his manao: "There were two women who went up the hill of Pu‘u Hakila or Pu‘u Hela to dry their Kapas [tapa cloth]. While the kapas were being dried they left and went down the hill to the pool for some water. They heard dogs barking, so they stood, looking around for the barking was deafening. |

Source: Author

Organizing Information

The research conducted has provided a wealth of information regarding the ahupua‘a of Nānākuli, helping to define elements and provide justification for an appropriate conceptual plan. The identity of place and people will become the defining point guiding the design process. Although all the information gathered may have had major significance in ancient Hawai‘i or modern history, the selected data will aid the overall aim of this thesis - sustaining a positive identity for place and community, as well as encouraging cultural and academic advancement, through a conceptual master plan.

The information presented necessitates a design process with sensitivity to local heritage, place, and community, in an effort to restore a forgotten cultural identity. The result will be a public charter school assuming the role of the new piko within the community, serving to improve the learning environment for all who reside in Nānākuli.

Informed Design Process

As mentioned earlier in this doctorate project, the given area is often incorrectly associated with misfortune due to its limited amount of water, which is a sign of wealth and prosperity from a traditional perspective. Correlating and providing a new identity informed by the mo‘olelo of place, will help overcome this perception by enriching and rooting residents with their culture, place, and community.

A definitive design element derived from the process of the cultural site analysis is the pertinent mo‘olelo previously mentioned, and is geared toward the famed Hawaiian hero, Māui. Concurrently other cultural elements will aid in the layout and spaces of the new public charter school campus, enhancing the cultural relevance of its design and planning.

Conclusion

All data extracted from research conducted will be guided and integrated with the traditional site analysis to inform the school's spatial layouts, circulation, and all other defining elements within a well-designed campus. The combination of the two creates a better correlation between contemporary planning and traditional methods, merging the past with the present. . Currently, no significant master plan pertaining to the matter of place, culture, local heritage, and positive identity exist in any of the Wai‘anae region’s schools or communities.

To this end, the briefly discussed goal of the doctorate project is to provide a culturally-informed conceptual master plan of a hybrid educational model that fuses traditional Hawaiian worldviews, guiding principles, values and learning styles into the contemporary educational context. As can be seen in Chapter 8: Ho‘oiwi "To Become Skin and Bone" Conceptual Master Planning.

Chapter 8: Ho‘oiwi "To Become Skin and Bone"

Conceptual Master Planning

Design Development

Based on the information explored, the design process for a master plan can begin with the development of a learning vision concept and methodology. The conceptual master plan of a culturally- informed public charter school must be pertinent and viable to all users, in all avenues, especially for those instructing and learning.

As a public charter school, the institution remains in charge of regulating the Hawaii State Assessment (HAS) and Hawaii Common Core Standards (HCCS) for all understudies. The Nānākuli public charter educational programs will provide the opportunity for all students to exhibit their academic achievement on the HSA and beyond.

Vision of Charter School

The vision of the public charter school is to:

1. Develop self-sustaining and prepared learners for college, life, or their career path of choice, and
2. Intertwine a sense of cultural identity and the environment through learning.

The importance of tailoring understudy lessons based on their learning capabilities has long been recognized, however there has been a failure to understand how students learn. The proposed school's vision is to create a learning environment which caters to the learning needs of all understudies while addressing the loss of culture through conducive master planning for the selected ahupua‘a. The selected site contains a

number of cultural elements which will assist in restoring cultural associations which may have been long forgotten.

Determine Purpose and Significance

The development of a culturally-charged master plan to be implemented within an educational model is viewed through the lens of both a conventional and cultural site analysis. This process has unearthed culturally-charged elements which will assist in the initial conceptual master plan layout. Incorporating these elements will enable the school to provide learners who are afforded the opportunity to walk in both worlds of ancient and modern. This learning method will also enable understudies to learn in a variety of ways, effectively preparing them to exit the school to pursue their endeavors of interest.

Goals of Educational Model

1. To create a learning environment conducive for all learners, in all ways and spaces of learning.
2. To integrate culturally-charged terminology via ‘Ōlelo Hawai‘i and no‘eau within the school’s learning vision and master plan layout.
3. To integrate community- programs, leaders and cultural practitioners into the school in order to facilitate and sustain Hui (groups, multi- age learning).
4. To develop extended learning areas (‘āina-induced learning) within the outdoor fabric of the school and Valley.

Learning Vision Concept

The learning vision concept provides for a contemporary learning outcome methodology overlaid with Hawaiian language and proverbs, creating an enhanced, hybrid educational environment for all. Furthermore, the integration of the host language and cultural awareness within the school via learning indicators will visually and psychologically indicate type of instruction that will be provided upon arrival.

Several key elements of the learning vision concept will be presented and will act as guides throughout the master planning process. The following philosophies and values are integrated with those found within the context of the case studies presented in Chapter 5 and other resources such as the School for Examining Essential Questions of Sustainability (SEEQS Middle).

The key philosophies and values of the learning vision include:

1. Ho‘okuaho‘o (*complex thinker*) - described in ‘ōlelo no‘eau as Mai pono, hana, hana pono (*don't be busy with frivolous work; do what you need to do*).¹⁹² This proverb correlates to learning as "Real-world situations and real-world contexts enable real-world learning. Understudies learn best when they can see one to one associations between what they are learning and daily experiences".¹⁹³
2. Kuleana Ihola (*self-directed learner*) - described in ‘ōlelo no‘eau as Nana ka maka, hana ka lima (*The eyes watch and the hands perform*).¹⁹⁴ This proverb correlates to education in the sense that learning occurs when learners take ownership of their learning.¹⁹⁵ "When people have some range of choice about the shape and direction of their own learning activities—learning tends to be more meaningful and robust. When we're in charge of our own learning, we...find opportunities to engage our minds, especially in environments rich with evocative objects and experiences."¹⁹⁶

¹⁹² "Ke Kula Kaiapuni‘O Nanakuli", Accessed December, 2015,

http://kekulakaiapunionanakuli.blogspot.com/p/glo_23.html

¹⁹³ "The School For Examining Essential Questions for Sustainability, SEEQS Middle", accessed December, 2015, <http://www.seeqs.org/>.

¹⁹⁴ "Ke Kula Kaiapuni‘O Nānākuli".

¹⁹⁵ "SEEQS Middle."

¹⁹⁶ OWP/P Cannon Design, Inc., VS Furniture, and Bruce Mau Design. (2010), pp.6. *The Third Teacher: 79 Ways You Can Use Design to Transform Teaching & Learning*. Abrams.

3. Mālama Kaiāulu (*community contributor*) – described in ‘ōlelo no‘eau as Kōkua aku, kōkua mai (*Care is given and care is received*).¹⁹⁷ A learning environment is composed of its community members, cultural values, and physical surroundings. Improvement of the learning environment therefore requires conscious, collaborative participation by community members.¹⁹⁸

Darling-Hammond argues that “It is time for our education workforce to engage in learning the way other professionals do—continually, collaboratively, and on the job—to address common problems and crucial challenges where they work.”¹⁹⁹

4. Hana No‘eau (*quality producer*) - described in ‘ōlelo no‘eau as mai maka'u I ka hana, maka'u I ka moloa (don't fear work, fear laziness).²⁰⁰ Everyone is a teacher, everyone is a learner, all of the time.²⁰¹ Learning opportunities depend on “matching the right teacher with the right student when he is highly motivated in an intelligent programme, without the constraint of curriculum.”²⁰²

5. Kūpono hana‘ike (effective/ethical use of technology) - described in ‘ōlelo no‘eau as "Hele nō ka ‘alā, hele nō ka lima (Where the adz goes, the hand goes)".²⁰³ The ability to walk in both traditional and modern worlds is important in 21st century Hawaiian professions.²⁰⁴ Scientific practices help us understand the world around us and prepare for our future.²⁰⁵ In Hawaii, views of the environment are influenced by the Ahupua‘a system that reflects not only

¹⁹⁷ "Ke Kula Kaiapuni‘O Nānākuli".

¹⁹⁸ "SEEQS Middle."

¹⁹⁹ Darling-Hammond, L., Wei, R.C., Andree, A., Richardson, N., & Orphanos, S. (2009). Professional learning in the learning profession: A status report on teacher development in the United States and abroad. National Staff Development Council. Retrieved from: http://www.srnleads.org/resources/publications/pdf/nsdc_profdev_short_report.pdf

²⁰⁰ "Ke Kula Kaiapuni‘O Nānākuli".

²⁰¹ "SEEQS Middle."

²⁰² Illich, Ivan (1970). Why We Must Disestablish School (pp. 22). In Deschooling Society. London: Marion Boyars.

²⁰³ "Ke Kula Kaiapuni‘O Nānākuli".

²⁰⁴ "SEEQS Middle."

²⁰⁵ "SEEQS Middle."

Hawaiian history and values, but also the variety of occupations and ecosystems defined by it. This provides a logical rationale for utilizing the natural environment inherently place-based learning.²⁰⁶

6. Kā kā ‘olelo (*effective communicator*) - described in ‘ōlelo no‘eau as "I ka olelo no ke ola, I ke olelo no ke make (*In the word is life, in the word is death*).²⁰⁷

Understanding others and being able to be understood will develop a better outcome in all situations.²⁰⁸ To avoid negative outcomes, words spoken must have good intentions and a positive outlook. The ability to communicate is an essential task in life and as a member of your community.²⁰⁹

These learning vision concepts will set the foundation for the way the school instructs and fosters learning for all. The goal is to utilize traditional concepts to guide teaching and learning throughout both the school and community as a whole.

Learning Path Diagram

The development of a learning path aims to connect learners and instructors to their natural surroundings via viewing these surroundings as a learning environment providing learning support for all. Thus, creating a visual learning process through the use of diagrams and cultural terminology enables users to understand and relate to the learning approach being presented. In the case of this research project the learning path diagram will acknowledge different types of learners, and how knowledge is acquired via various avenues. These avenues are represented by learning worlds, learning paths, and support groups, all designed to foster student growth and incorporate a Hawaiian worldview perspective. The components of the learning path diagram are listed below, along with a description of how each is geared to the acquisition of knowledge (see also figure 22 for an illustration).

²⁰⁶ "SEEQS Middle."

²⁰⁷ "Ke Kula Kaiapuni‘O Nānākuli".

²⁰⁸ "SEEQS Middle."

²⁰⁹ "Ke Kula Kaiapuni‘O Nānākuli".

1. The knowledge and understanding pathway is represented by kai (ocean):

The Pacific Ocean was once considered by the Polynesian Empire as the main source of knowledge, prior to permanent settlement on the Islands. The ocean taught the early Hawaiians survival and navigation skills while they were at sea for long periods of time.

2. The personal skills or individual journey of obtaining knowledge pathway is represented by the wa 'a (canoe):

The canoe was the early Hawaiians' main source of transportation. The fact that the ocean is vast and can be navigated in a variety of ways demonstrates that individuals navigate in their own unique way using a variety of techniques and skills, acquiring their own manao (belief, opinion) of the ocean.²¹⁰

3. Learning worlds ('āina) or clusters of cross-curriculum learning:

As early Hawaiians began to settle within the islands, each became connected to a particular place. These connections lead to the understanding of one's immediate world, and the use of surrounding natural resources became their support system. The learning worlds or clusters in the proposed school will enable correlated educational content to be merged in a conducive learning environment.

4. Wai (fresh water) refers to facilitators within the school such as staff, students, community leaders, and family:

Sustenance for all life forms, wai (water) acted as the life support of early Hawaiians, enabling their survival on a small chain of islands. With this in mind, each of the facilitators mentioned above will become one inclusive 'Ōhana (family), helping each other to learn and grow.

²¹⁰ Mary Kawena Pukui and Samuel H. Elbert. *Hawaiian Dictionary: Hawaiian-English, English-Hawaiian*. Honolulu: University of Hawaii Press, 1986, 236.

5. *Extended learning areas within the school are referred to as kalo (taro/ colocasia esculenta):*

The main food staple in traditional Hawaiian culture was kalo, a natural resource which sustained life in Hawai'i for thousands of years. It is also revered as the first sibling of the Hawaiian ancestral lineage and for this reason will be viewed as the extended learning spaces within the school's learning worlds and outdoor spaces.

6. *Focal spaces (multifunctional) within worlds are referred to as the piko:*

In traditional times, each island, moku, ahupua'a, 'ili, and kanaka (person) had a focal/central point known as the piko. The piko is variously referred to as the following: naval or umbilical cord, summit or top of hill, mountain, where a leaf connects to the stem, genealogy, and ancestral relationships. The piko is the concept which grounds past, present, future in the Hawaiian worldview perspective and it will become the overall focal point within the school, grounding all users in a relevant learning environment (socially, culturally, spiritually, and physically).²¹¹

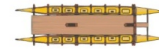
²¹¹ <http://www.slideshare.net/malama777/piko-hawaii>

Learning Path Elements

Knowledge and understanding pathway- (**ocean**)



Personal skills pathway- your journey (**wa'a**)



Learning world (**'aina**) - support for cross-curriculum



Supporters- staff, students, community leaders,
study base, family (**wai/water**)



Extended learning areas- are placed within shcool (**kalo**)



Focal spaces within worlds- (**piko**)



Learning Path Diagram

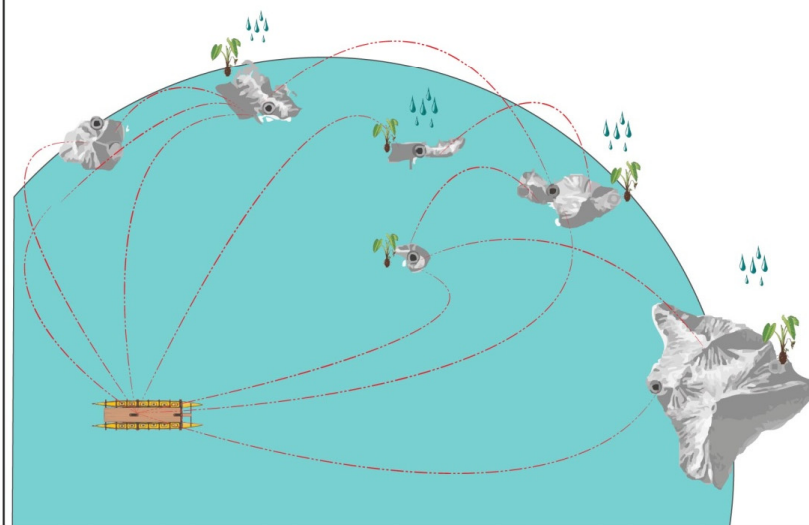


Figure 22: Learning path diagram.
Source: Author

Cultural Identity and Site Analysis Process

The Name: Nānākuli and its Meaning

The name of the ahupua‘a of Nānākuli has had several interpretations from those who have resided in the area over many generations, but research in Chapter 1: *Cultural Displacement*, revealed more positive associations with the Valley in the traditional era. Although determining the origins of the name of a particular place can be a rigorous issue in Hawai‘i, the examination of mo‘olelo, research, and past and present descriptions has helped to shed light upon the ahupua‘a name. These findings will be examined and extracted to further assist in the learning development of understudies and the community as a whole. This investigation was conducted to create a positive understanding of place, and has become integral to guiding culturally-charged elements of the conceptual master plan. These extracted associations of the ahupua‘a name are as follows:

Kuali‘i Chief:

A further explanation of the name Nānākuli is reprinted from Thrum’s Hawaiian Annual, in Sterling and Summers’ *Sites of O‘ahu*: "The name of “Nānākuli”, a section of Wai‘anae, meaning “knee examination”, is said to relate to an incident in the travels of the famous Kuali‘i, when his attendants wished to see and press his knees, to relieve the king’s fatigue after the journey."²¹²

High Priest Ka‘opulupulu:

Mo‘olelo found in *Sites of Oahu* by Sterling and Summers tells of Kahahana, an O‘ahu high chief who was warned by his high priest Ka‘opulupulu to stop his unethical ambitions. Kahahana rebelled against this advice, and Ka‘opulupulu decided to tattoo his lower knees as a sign of his disapproval of the chief.

²¹² Sterling and Summers, *Sites of O‘ahu*, 62.

Māui, Famed Hero:

Mo‘olelo referenced in *Sites of Oahu* by Sterling and Summers tells the story of Maui, the famed Hawaiian hero, who held back the sun on the mountain top known as Pu‘u Heleakala. Thus the naming of this mountain translates as "snare the sun", as follows:

Hele - to snare
a - belonging to
Kalā - sun²¹³

Māui's Rock:

Another related incident of the famed Hawaiian hero is found in a Cultural Impact Assessment for the Farrington Highway conducted by Ko‘ahulani McGuire in an ethnographic interview of Fred Cachola. Cachola describes his encounter when visiting a rock outcropping in the Lualualei area known to be Māui's rock, or the area where the hero "reposed himself". Mr. Cachola returns in the early mornings to the same location, awed by the giant silhouette of a sleeping man which he was informed by a kūpuna night watchman to be the hero, Māui. In Cachola's description the giant is represented by the mountain ridges of Nānākuli Valley.

Māui's Knee:

As the giant silhouette of Māui is revealed by the Nānākuli Valley ridgelines in the early mornings, it has become apparent this mo‘olelo may have been used as a significant landmark in locating this ahupua‘a. Those passing through the Wai‘anae moku in search of the place may have been pointed in the direction of the hero's knee, thus characterizing the people of the area as Nānākuli - to look to the knee.

²¹³ Ibid, 62.



Figure 23: Maui the giants' silhouette.
Source: Google Earth

The significance of these culturally-charged elements has revealed a totally different interpretation of the ahupua'a. This provided an opportunity for the implementation of these associations into the cultural site analysis which lead to the unearthing of other traditional elements. Cultural elements have become drivers in the design process and are incorporated within the conceptual master plan via cultural mapping. The significance of one mountain peak has influenced the knowledge of all peaks and other cultural elements which make up the Nānākuli Valley, leading to the selected site for the proposed school to be determined, (see figure 24).

Mapping of Cultural Elements

The site was selected for several reasons. First, mapping of these culturally-charged elements has revealed a significant discovery originating from this focal point. Referenced sources of cultural elements are found in table 7 and table 8 of Chapter 7: Cultural Site Analysis. As mentioned previously each island, moku, ahupua'a, 'ili, and kanaka all held a central focal point known as the piko. This process of mapping had led the author to believe the traditional piko of the Valley may be located higher within the undeveloped lands of the Department of Hawaiian Home Land Property. This point of origin has become the selected site for the proposed new public charter school.

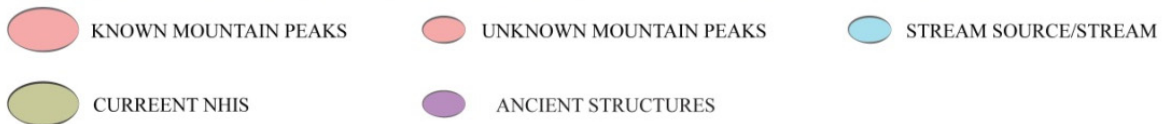
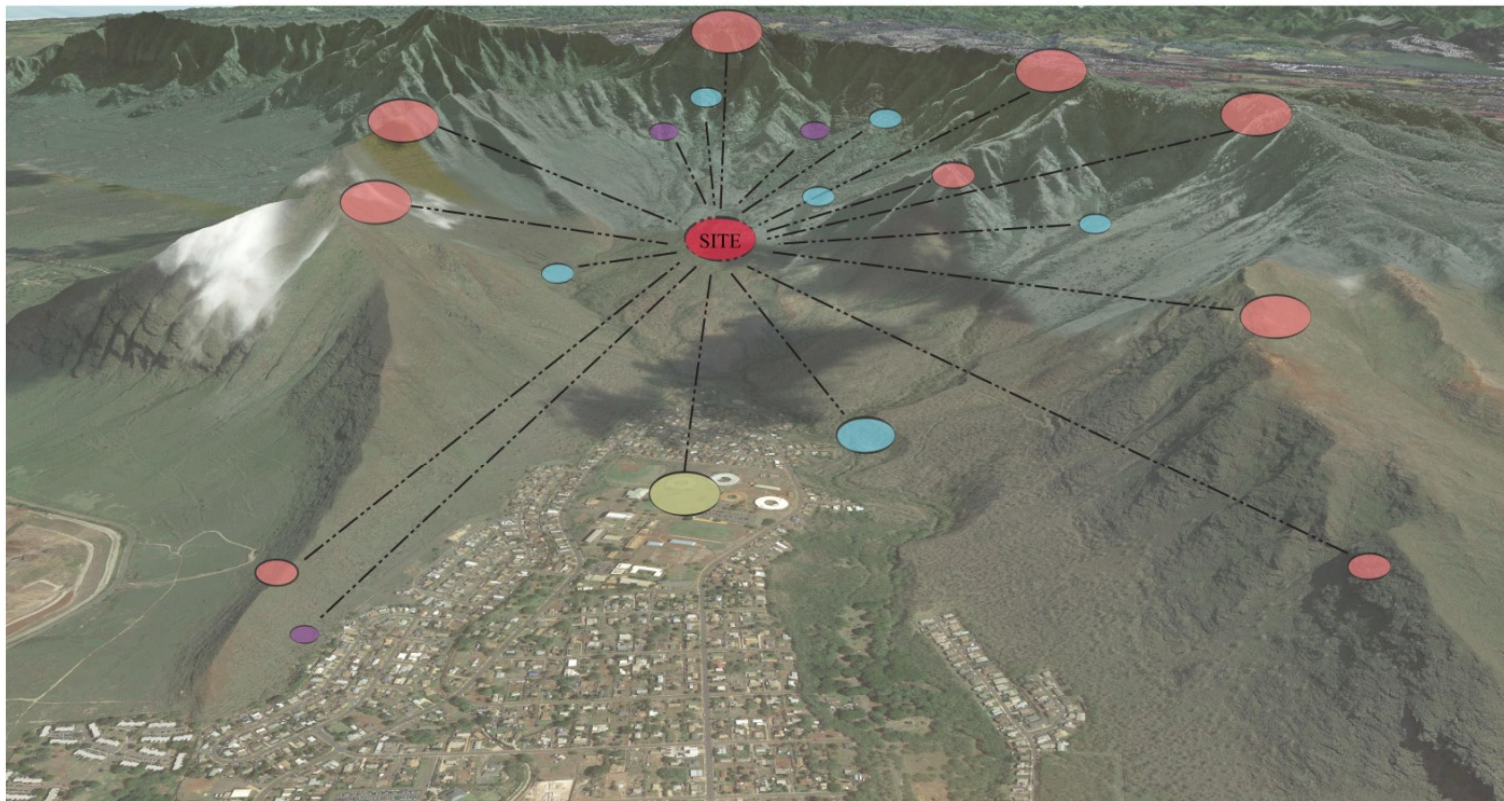


Figure 24: Cultural mapping.
Source: Author

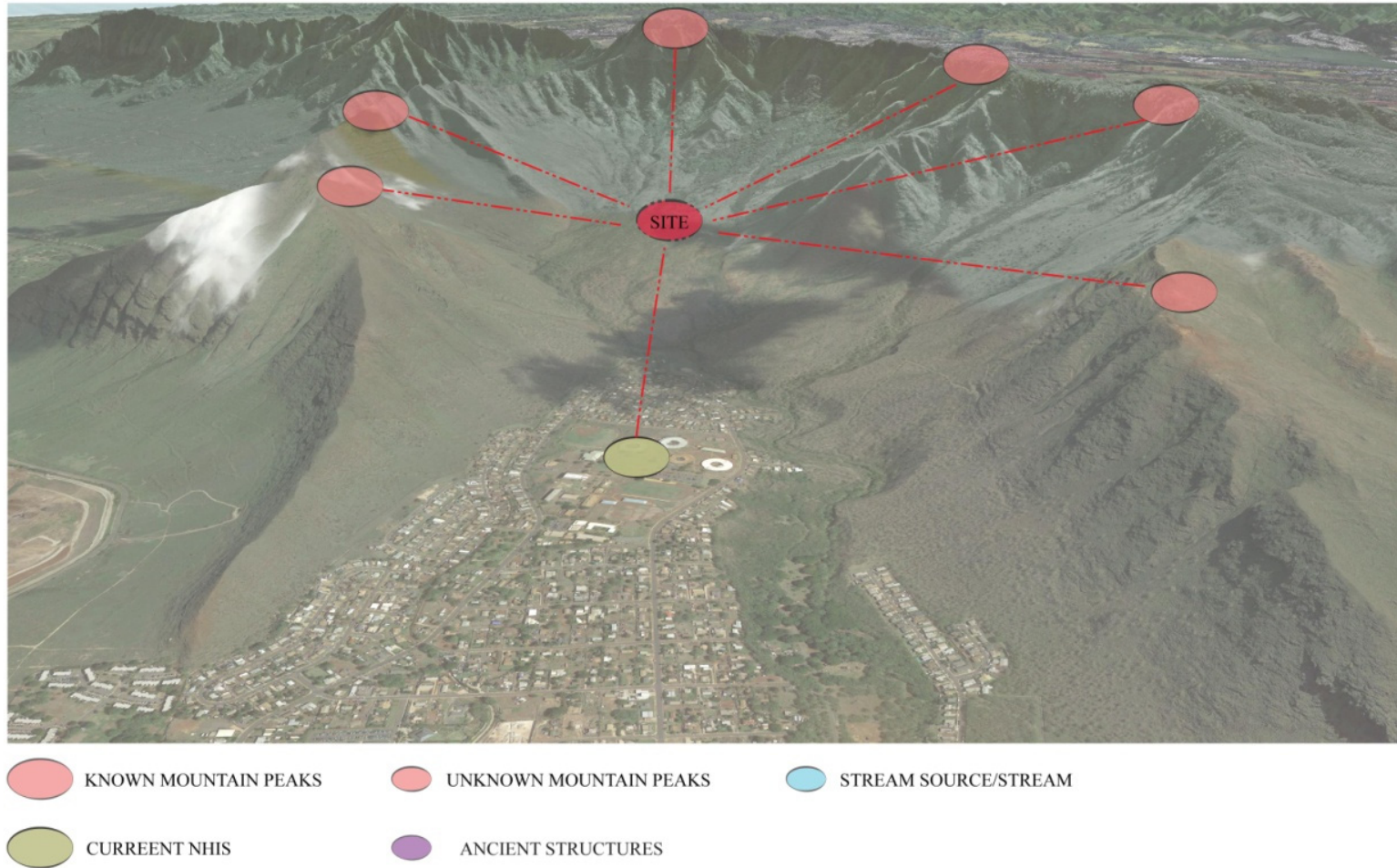


Figure 25: Cultural drivers.
Source: Author

Second, the mo‘olelo mentioned has revealed a traditional interpretation of this Valley, initiating the extraction of cultural drivers associated with its mountain peaks/ridgelines for several reasons. First, these particular elements marked the traditional boundaries of this ahupua‘a. Second, mo‘olelo sensitive to place has led the author to select mountain peaks/ridges of this Valley and develop them into learning worlds (see figure 25). Each world cluster will not only reflect a mountain peak, but transition into several traditional Hawaiian professions which correlate to the contemporary context. These learning worlds have become the initial drivers in the conceptual master plan and have subsequently led to the development of several other design elements to be incorporated.

Site Engagement

As the site is located higher within the upper Valley beyond the current residential development, it is densely covered by vegetation of all sorts, and is encompassed by the Valley's majestic ridgelines. Exploration of the site invites one to examine its beauty through all sensory nodes. Its isolation and previous animal husbandry use has led the upper Valley to receive little or no maintenance, especially in the restoration of its endemic habitat and ancient structures. This makes the site an ideal location for ecological and cultural learning beyond the classroom (placed-based instruction), via its various habitats and honored sites.

The focal point of the school will be its piko (center), and surrounding it will be other design elements which are referred to as learning worlds. Beyond these learning worlds are extended learning areas, and then finally, the natural habitat which extends beyond the school boundaries. This correlates with the traditional Hawaiian concept, as the piko is a point of origin which extends outwards. The school therefore becomes an extension, reaching further into the existing and future development within the Valley, as well as being the grounding element linking all to the cultural past. Figure 26 is an

integrated site analysis illustrating how the piko is linked to the design elements utilized in the cultural site analysis. Figure 27 show the integrated site analysis over laid onto the conceptual world adjacency diagram. Figure 28 is the conceptual world adjacency diagram and overlays this adjacency diagram onto the site itself. Figure 29 is the conceptual master plan which has evolved through this process of cultural mapping.

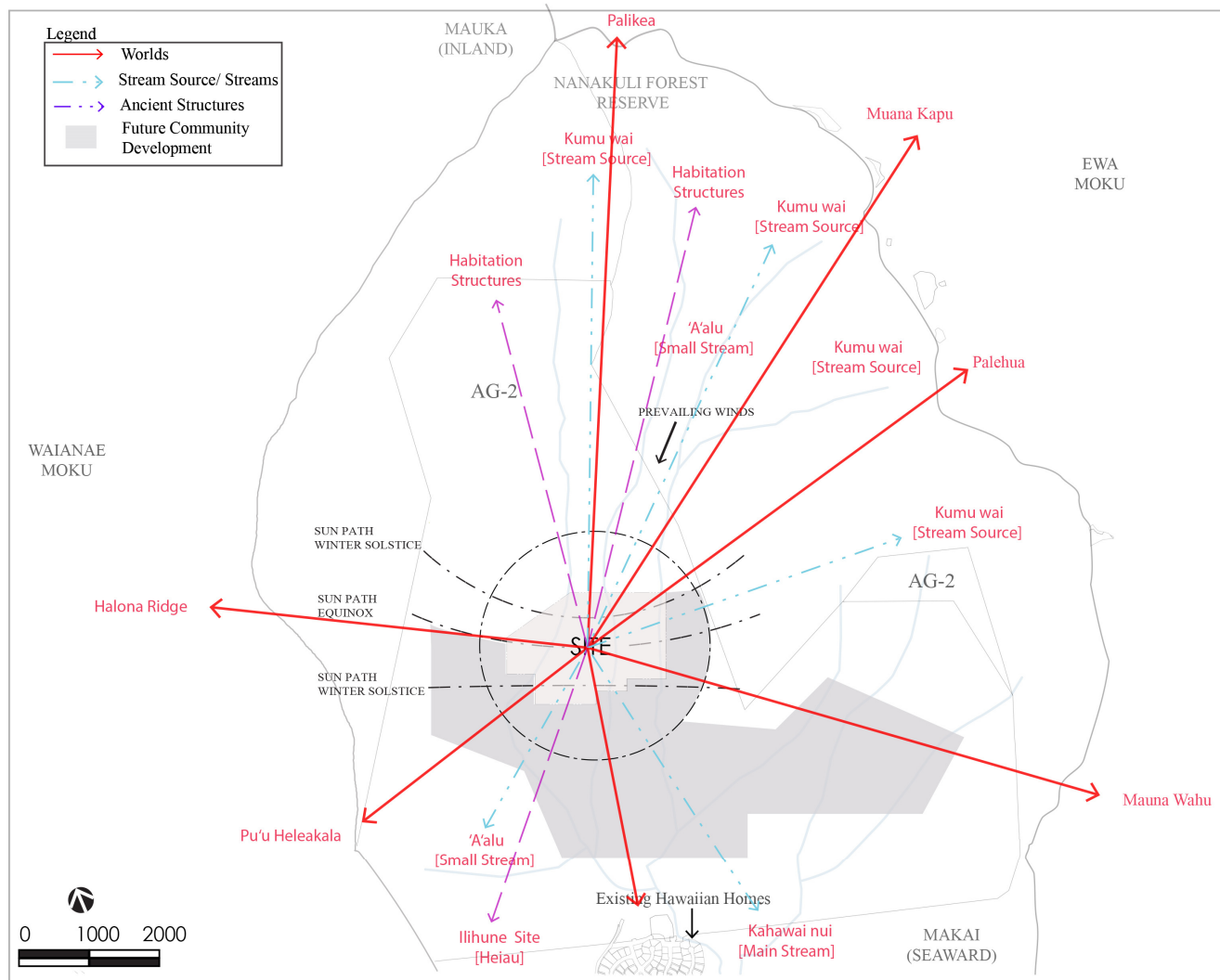


Figure 26: Integrated site analysis with design elements.
Source: Author

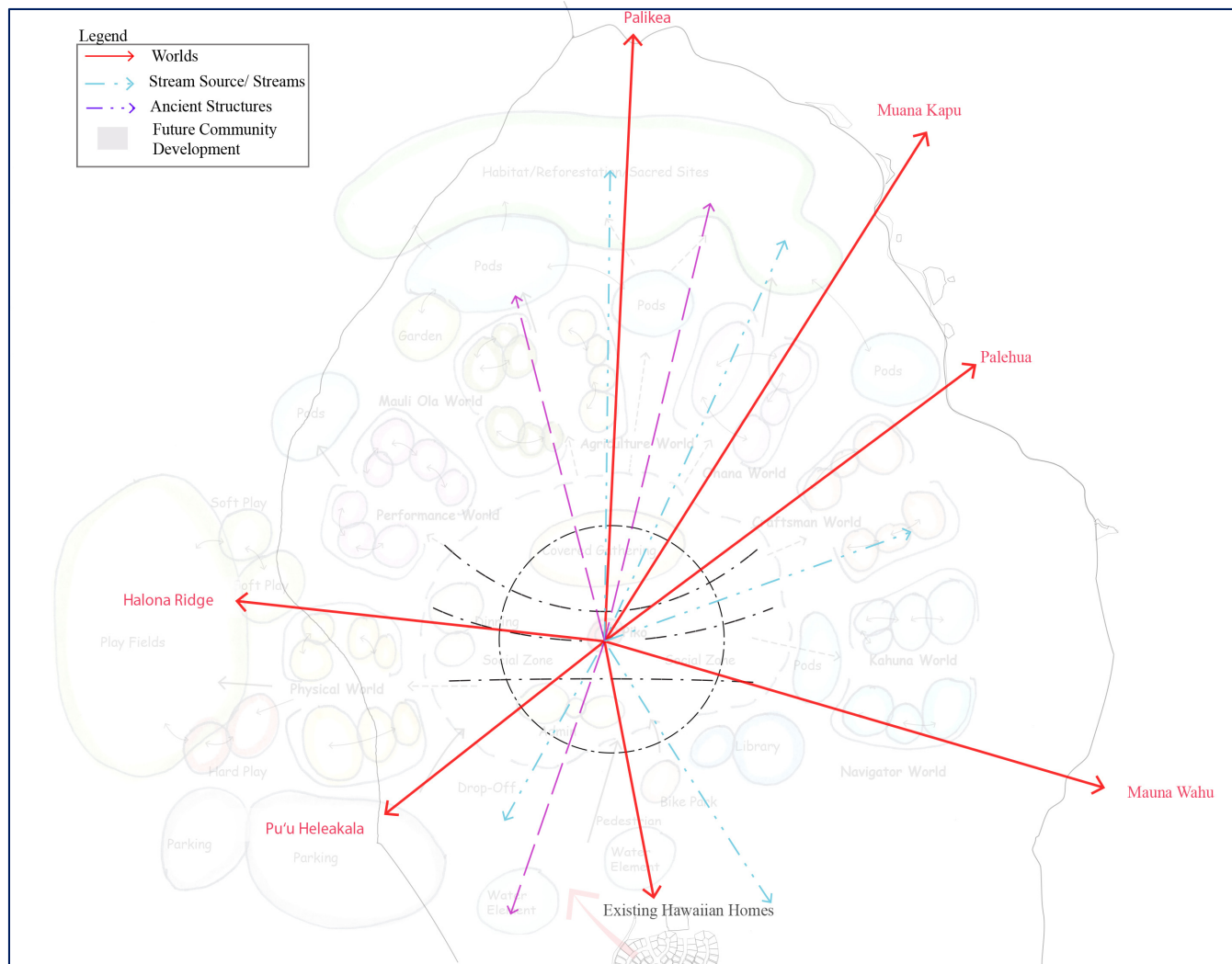


Figure 27: Integrated site analysis overlaid on conceptual world adjacency diagram.
Source: Author

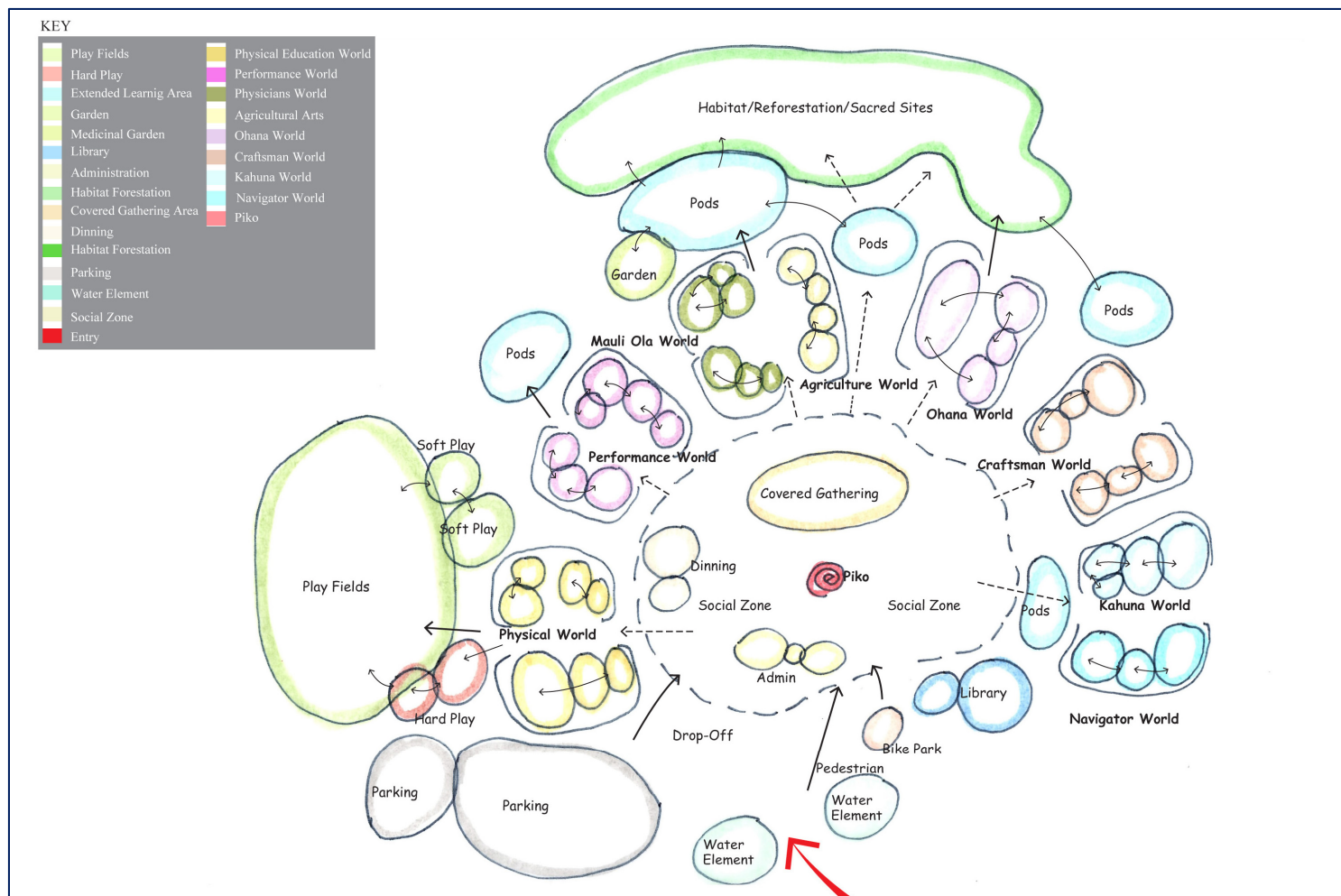


Figure 28: Conceptual world adjacency diagram.
Source: Author

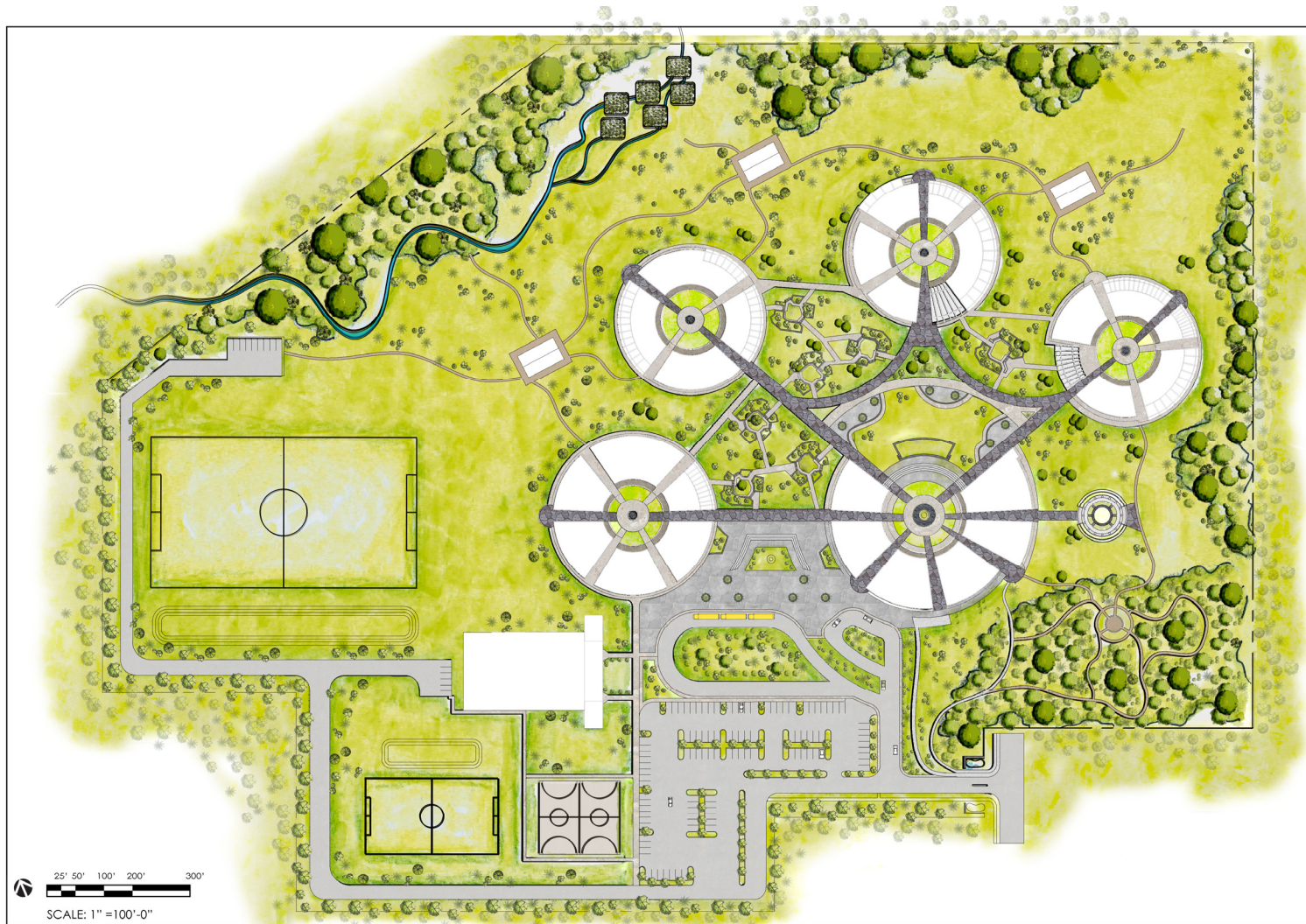


Figure 29: Conceptual master plan.
Source: Author

Initial Design Drivers and other Culturally Charged Elements of the Conceptual Master Plan:

The two design drivers of the piko and cultural learning worlds to be integrated within the school's layout has guided the initial conceptual master plan to develop a sustainable learning environment that meets the goals for this hybrid educational model. The layout of the campus will be further enhanced by several other design elements procured through case studies analyzed. The design elements of the conceptual master plan are as follows: extended learning areas (outdoor instruction), and landscape strategies.

Design Elements:

Piko (Central Focal Area):

At the heart of the school is the school's primary piko which will be used as a multi-functional space linking the school together as a cohesive unit physically, visually and culturally. At the center is a grassy mound which will house artifacts found in the permanent structure in the upper Valley. Surrounding the mound will be smooth lava stones and ti-plants (*Cordyline fruticosa*), which were both used in traditional times to mark honored spaces or structures. Piko spaces in the proposed school's design will be similarly honored with this culturally-charged element, linking users to both their culture awareness and the site's sensitivity (as seen in figure 30).



Figure 30: Piko rendered with vegetation.
Source: Author

Immediately surrounding the piko are shared spaces such as the Administration building, Library, Cafeteria (multipurpose space), and two cultural learning clusters labeled as the Navigator and Kāhuna World. All spaces are linked by a shared gathering space, amphitheater, and performance mound. The flexibility of this area allows for functions such as school plays, assemblies, and other related activities. All major circulation paths converge to the main piko to enhance the concept of the schools heart.

Extending beyond the immediate area of the primary "piko" will be the surrounding learning clusters of other school programs, placed into three "cultural learning worlds". Each learning world will house its own "subsidiary piko", while also acting as a multifunctional learning or gathering space when necessary.

Cultural Learning Worlds:

The cultural learning worlds will be associated with traditional professions, housing several closely related contemporary curricula within a selected area or building. Conceptually, the campus layout consists of the eight professional worlds: the Navigator World, the Kāhuna World, the Craftsman World, the ‘Ōhana World, the Physicians’ World, the Planters’ World, the Performers’ World, and the Physical World. All surround the central piko and have a continuous link to the primary piko (central space). These professional worlds will be appropriately defined in a traditional sense and closely correlate with one another. Figure 31 illustrates each cultural learning world in relation to the mountain peaks of the Nānākuli Valley, all held together by the hero Māui, holding the sun. This links mo‘olelo to the school’s layout. Figure 32 illustrates traditional professional icons overlaid onto adjacency diagram.

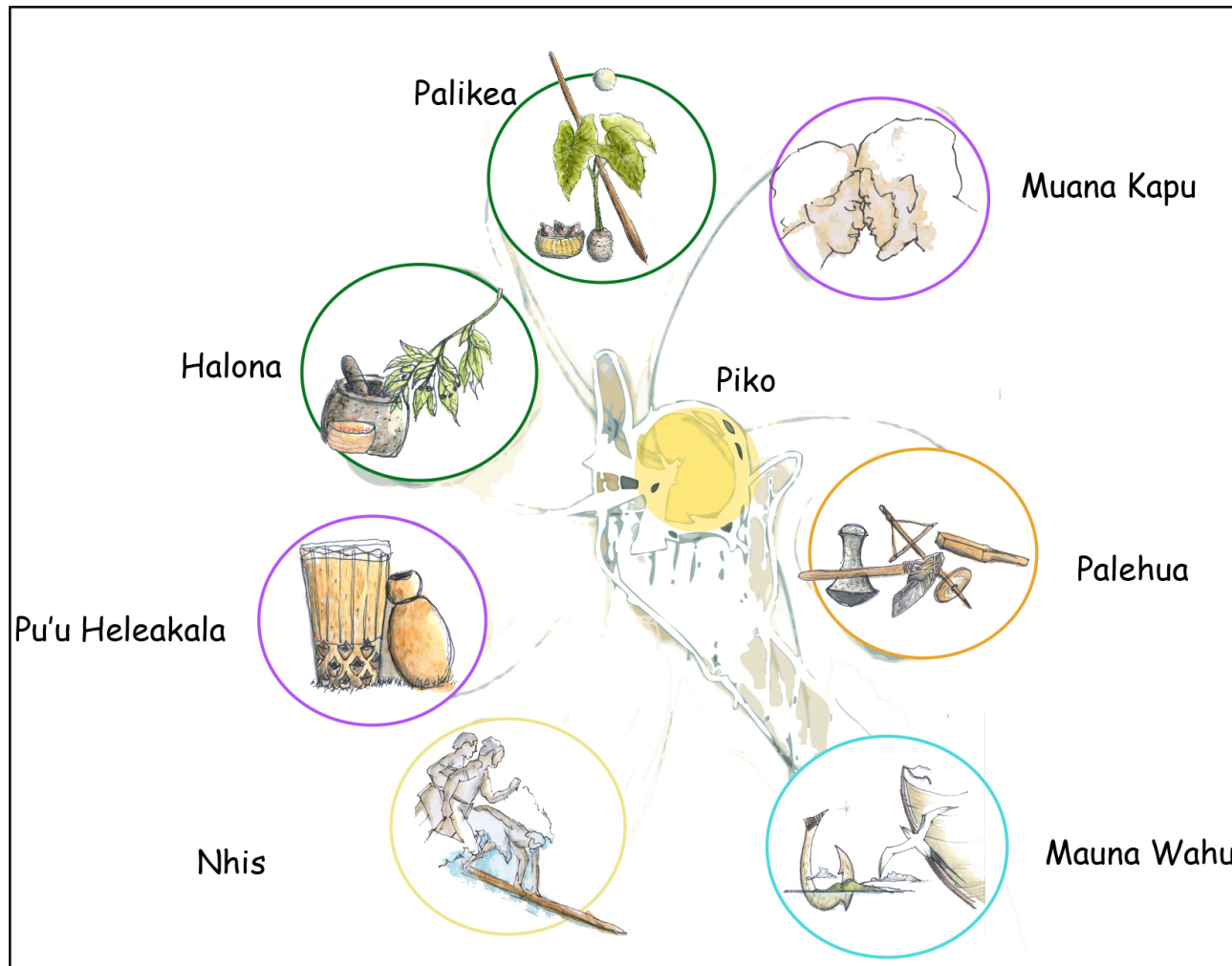


Figure 31: Maui world diagram.
Source: Author

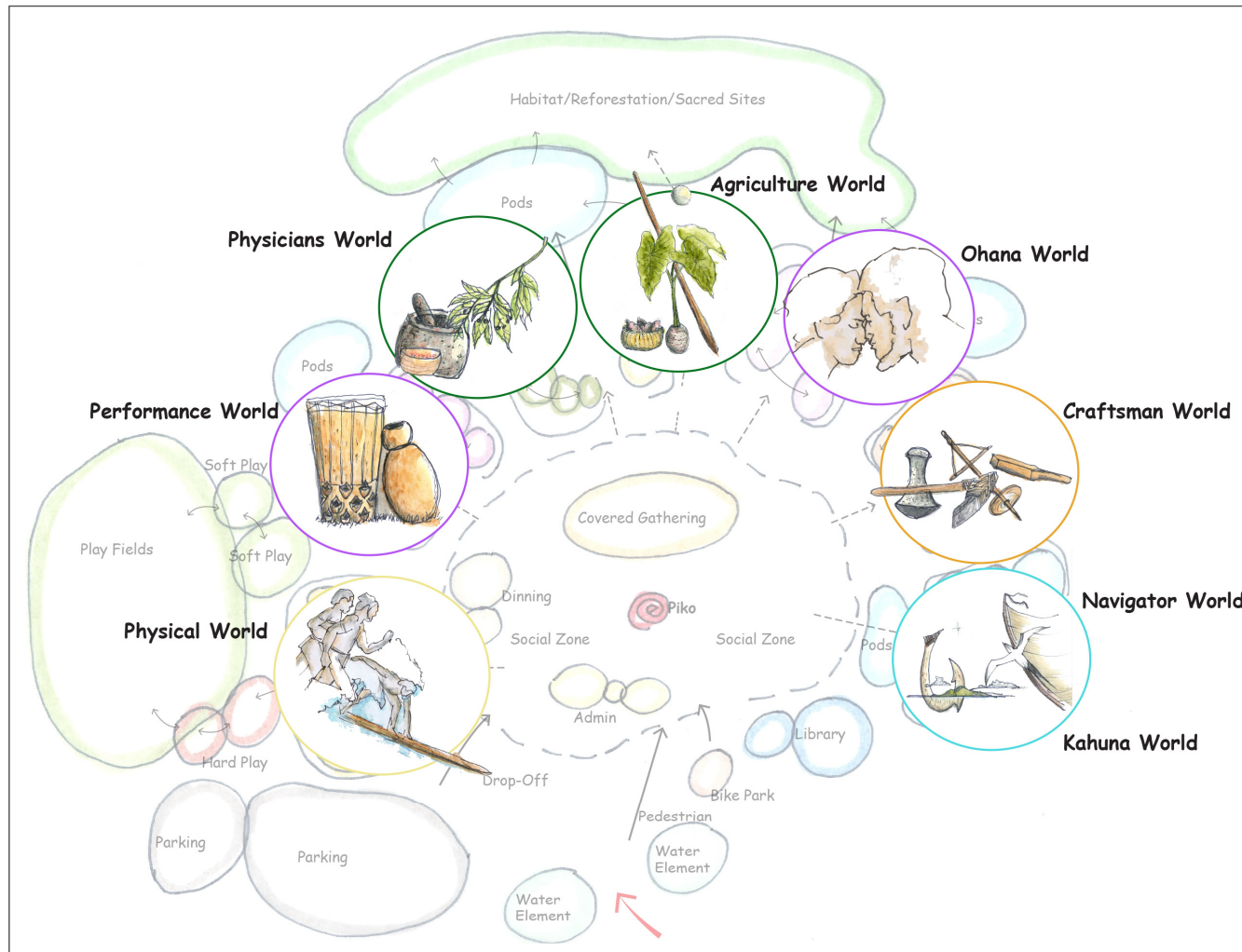


Figure 32: Cultural learning worlds' icon overlaid on adjacency map.
Source: Author

Cultural Learning Worlds' Descriptions

Navigator and Kāhuna Learning Worlds will be combined due to the close relationship between traditional professions and cross-curriculum content.

1. Navigator Learning Worlds:

Traditional context: Kāhuna Kilo ko hōkū were experts in weather, seasonal changes, astronomy, and navigation.²¹⁴ The lawai'a (fishermen) were also acquainted with clouds, sea birds, currents, seasonal changes, winds, fish species, and other natural sea occurrences.²¹⁵ Together the two reflect the world of Navigation as a profession which requires the ability to acquire in-depth knowledge of the ocean, skies, and all related issues.

Navigator Learning World: This professional world is associated with the physical sciences and mathematics. It houses the study of science, chemistry, astronomy, digital technology, physics and earth sciences, biology and marine sciences, and mathematics.²¹⁶

2. Kāhuna Learning World:

Traditional context: The Kāhuna were a class of leading experts within a specific profession or craft, and acted as a medium between the chief and spiritual patrons. The Kāhuna performed rituals at temples, shrines, or Heiau to solicit mana from the patron spirits of their Ali'i (chief). The word Kāhuna (plural, Kāhuna) originates from its prefix of Kahu (caretaker), and they were considered to be the custodians of esoteric knowledge, kept in secret in order to preserve its mana.²¹⁷

²¹⁴ Herbert Kawainui Kane, *Ancient Hawai'i*. Captain Cook, Hawai'i: Kawainui Press, 1997:37.

²¹⁵ Ibid, 72.

²¹⁶ Department of Education, Educational Specifications (EDSPECS) For High Schools, State of Hawaii, December 2006,139.

²¹⁷ Ibid, 1997, 37.

Kāhuna Learning World: This professional world deals with language arts and social studies. It houses the study of world history, geology, English, economics/politics, geography, and world languages.²¹⁸

3. *Planters' and Physicians' Learning World:*

The Planters and Physicians' Learning Worlds will be combined due to the close relationship between traditional professions and cross- curriculum content.

Planters' Learning World:

Traditional context: The Kāhuna Ho'ōlu'ai were agricultural experts which included the mahi'ai (planter). Their expertise consisted of cultivating, planting, and harvesting and was based upon their knowledge of plant species, soils, irrigation, and seasonal cycles. Their activities were mainly regulated by the phases of the moon that indicated the particular days of the month when particular plants were grown or harvested.²¹⁹ This ensured an adequate amount of food to sustain each village or island.

Planters' Learning World: This professional world is associated with natural resources (agriculture) and horticulture (educational farming technologies). Areas of study may include agriculture, earth sciences, environmental sciences, forestry, horticulture, wildlife management, and the many agricultural business or agricultural industry occupations.

4. *Physicians' Learning World:*

Traditional context: Kāhuna lā'au lapa'au was a medical practitioner, healer, and curing expert.²²⁰ Many remedies were gathered from the sea to the mountain forests,

²¹⁸ Department of Education, Educational Specifications (EDSPECS) For High Schools, State of Hawaii, December 2006, 46-51.

²¹⁹ Ibid, 82.

²²⁰ Mary Kawena Pukui and Samuel H. Elbert. *Hawaiian Dictionary: Hawaiian-English, English-Hawaiian*. Honolulu: University of Hawaii Press, 1986, 115.

with some also being cultivated. The pōpolo was perhaps the most vital of all medicinal plants. Its leaves and black berries were used in treating skin disorders, wounds, and digestive problems. The traditional medical practitioner also specialized in setting bones and analyzing pressure points in the body's anatomy in order to diagnose patients.²²¹

Physicians' Learning World: This professional world is associated with the psychological, biological, and family/consumer sciences. It houses the study of psychology, sociology, anthropology, zoology, botany, paleontology, biology, physiology, health, food and nutrition.²²²

5. Performers' Learning World:

Traditional context: The Kumu Hula was an expert of song, dance, and the associated arts. The art of hula consisted of storytelling, recitation of poems and chants, music, song and dance. It was practiced by both men and women and overseen by the Kumu Hula. This particular art was created and performed for religious purposes to honor chiefly statuses and family histories, as well as for entertainment.²²³

Performers' Learning World: This professional world is associated with the performing arts such as band, drama, music, dance and theatre, and Hula. All academic content will be delivered in an open outdoor performance space. Dance and theater are programs that will be integrated into the curriculum throughout the day. Movement in the form of creative dance will be part of the everyday classroom experience as a means to express and communicate ideas, feelings, and concepts.²²⁴

²²¹ Kane, Ancient Hawai'i, 54.

²²² Department of Education, Educational Specifications (EDSPECS) For High Schools, State of Hawaii, December 2006, 62,139.

²²³ Kane, Ancient Hawai'i, 102.

²²⁴ Department of Education, Educational Specifications (EDSPECS) For High Schools, State of Hawaii, December 2006, 131.

6. *Craftsman Learning World:*

Traditional context: ‘Ike hana lima describes an expert craftsman, or to work with the hands - one who holds the ability of perfected craftsmanship.²²⁵ Kāhuna Kālai were known as the carving and sculpting experts with the skill set to shape koi (adze) and tools, and construct rock walls. Others made kapa (tapa) cloth paintings. The Kāhuna Kālai wa‘a were experts at constructing canoes.²²⁶ A master craftswoman was referred to as Mea ulana lole (the weaver) and had the ability to weave fine mats, baskets, canoe sails, fishing nets and traps, as well as flowered leis.²²⁷

Craftsman Learning World: This professional world is associated with craftsmanship. It houses the study of construction (Woodshop), manufacturing (Metal Shop), transportation systems (Auto Shop), electronics and computers (Electronics), drawing and painting, photography, media arts and technology, and arts and crafts. It may incorporate creative or technical writing, illustrating, graphic designing, publishing, theatre arts, journalism, languages, radio and television broadcasting, photography, advertising, and public relations.²²⁸

7. *Physical Learning World:*

Traditional context: The physical aspect of sport, games, and physical activity were an essential part of the life of early Hawaiians of all ages. These activities included pala‘ie (ball and ring game), kūkini (sprint and long distance running), lupe(kites), kōnane (a board game, similar to checkers or draughts), hākā moa (cock fighting), ‘ulu maika (bowling with rocks and sticks), pahe‘e (spears and long darts thrown to slide for distance), he‘e nalu (surfing), kailoa (canoe racing), mokomoko (boxing), kākōkō (wrestling), hukihuki (tug of war), hōlua (sled racing down a hill), and ‘ō‘ō ihe (spear throwing), to name a few. All activities were intended for fun, but each

²²⁵ Pukui and Elbert, *Hawaiian Dictionary*, 96.

²²⁶ Kane, *Ancient Hawai‘i*, 37.

²²⁷ Pukui and Elbert, *Hawaiian Dictionary*, 558.

²²⁸ Department of Education, *Educational Specifications (EDSPECS) For High Schools*, State of Hawaii, December 2006, 107.

participant developed physical, mental, and emotional skills which helped to enhance mastery of their professions.²²⁹

Physical Learning World: This professional world is associated with physical education and extracurricular activity. It includes the gym, physical education and sport locker rooms, an outdoor play court, and all fields of play (known as pitches). Physical Education (PE) is the discipline that teaches students the knowledge and skills to be physically competent movers.

8. *Ōhana Learning World:*

Traditional Context: Family, relative, kin, or group-related. ‘Ohana holo‘oko‘a, and ‘ohana nui, mean extended family, or clan.²³⁰ In the Hawaiian culture the concept of family was important to all; the family was responsible for catering, fostering, protecting, and teaching one another.

Ōhana Learning World: This professional world is associated with cultural knowledge, practices and philosophies of a close-knit family or community. This world will house the study of Hawaiian language and practices, community engagement, Hawaiian history, special education, and guidance. Its co-curricular flex space will reflect the traditional hale. Community members or cultural practitioners will be afforded space and the opportunity to teach students, staff, and parents.

The cultural learning worlds outlined above will allow users of the school to integrate traditional professions into the contemporary context. This will enable all learners to walk in both ancient and modern worlds. Refer to the Educational Specifications (EDSPECS) Appendix 2 for specific curricula content.

²²⁹ Kane, Ancient Hawai‘i, 106-109.

²³⁰ Pukui and Elbert, Hawaiian Dictionary, 276.



Figure 33: World icons overlaid on conceptual master plan.
Source: Author

Landscape Strategy Indicators:

Landscape strategies will help to strengthen the school's layout, circulation, hierarchy, and other related aspects. They will link the main piko, cultural learning worlds, extended outdoor learning areas, multifunctional and other related spaces, allowing an extension to the natural environment and beyond. The landscape strategies are broken down into two sub-categories: hardscapes and softscapes.

As defined in the case study research, hardscapes are characterized by the constant pressure they face from both users and nature, and more importantly, by their areas of location. The softscapes will be the milder areas within the school, such as spaces or zones away from the hustle and bustle of formal activity or instruction. These two categories will now be further broken down.

Hardscapes

Hardscapes will assist users in navigating the campus layout, indicating pathways and areas of instruction. Texture and material will aid in indicating piko locations, primary and secondary pathways, and extended learning areas. Activities within spaces pertaining to multifunctional flex spaces, formal instruction, and extended learning will also be indicated.

Circulation Pathways Indicators:

Piko spaces will be indicated by smooth lava stones and surrounded by a small grassy mound area housing vegetation to enhance the concept of sacredness. Smooth lava stones will be utilized for paving due to their cultural functionality and history of being used to construct temples, heiau, or areas considered as honored or sacred.

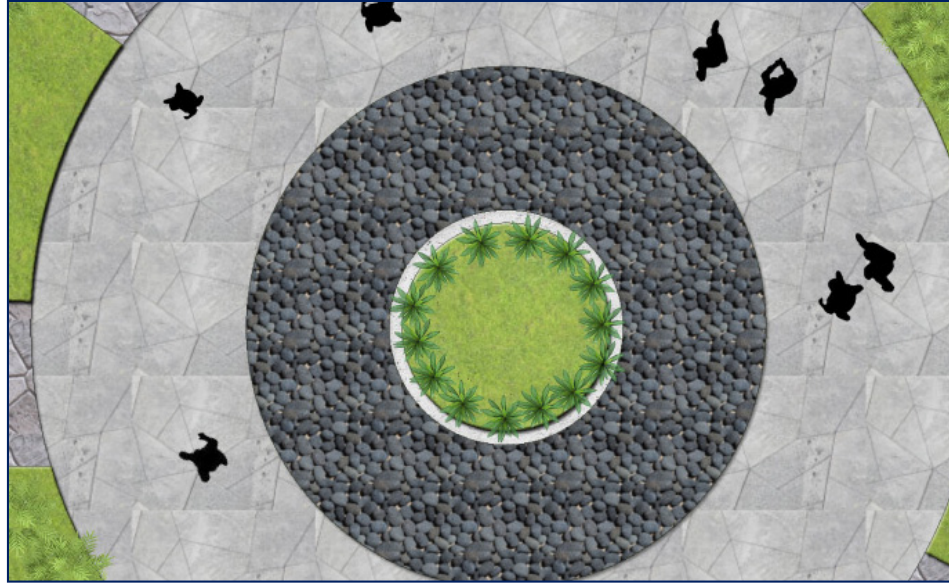


Figure 34: Piko stone indicator.
Source: Author

Primary circulation pathway - these pathways will utilize a more rough and rigid stone paving, broken up to enhance the concept of culture and natural environment. This design moves away from the conventional eyesore of concrete sidewalks. The visual aesthetics of the stones will indicate that one is circulating on a main axis leading to a cultural learning world. This circulation path will be wider in width than other school circulation routes.

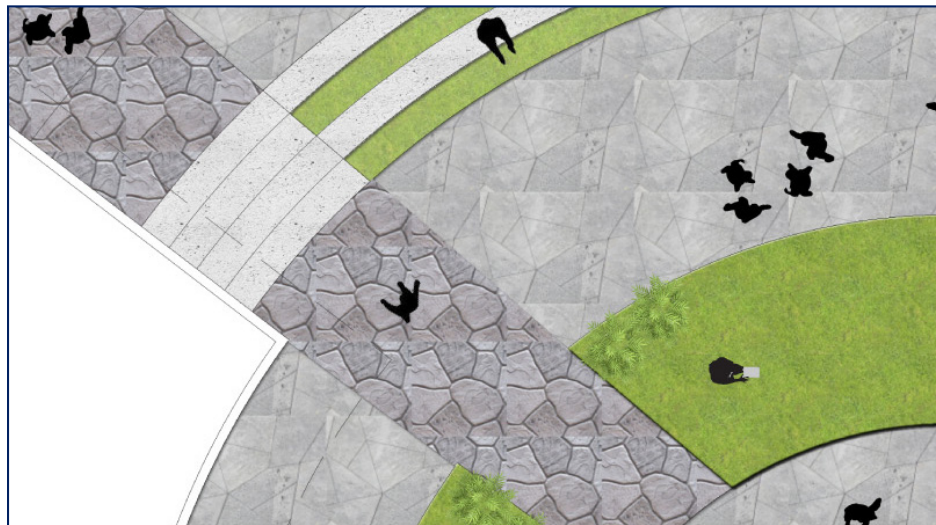


Figure 35: Main circulation pathway
Source: Author

Secondary circulation pathway - formal concrete broken up in various shapes of rectangles and squares will be utilized for these circulation paths. They will be a smaller width than the primary pathways and the aesthetics of various concrete shape sizes will soften the look of normal concrete paving. These secondary pathways are intentionally designed so that they will be visually overpowered by the primary pathways in terms of width size, color, and texture.

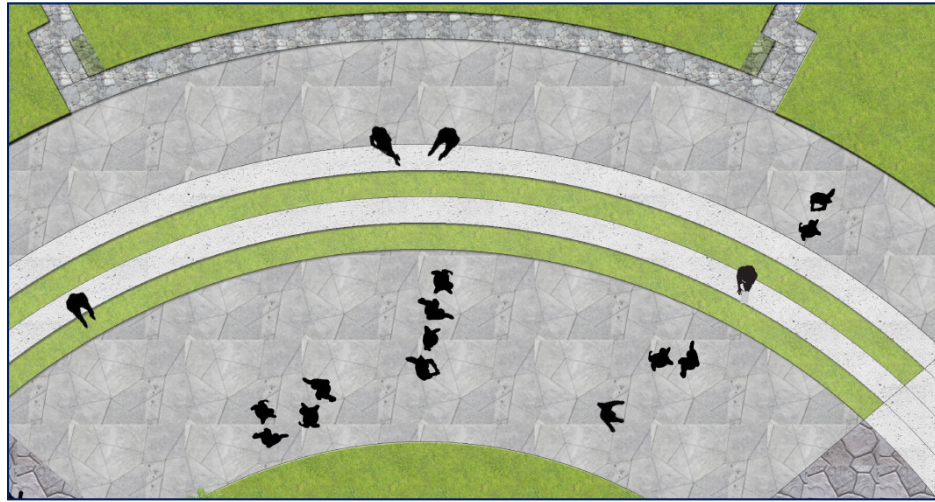


Figure 36: Secondary circulation pathway
Source: Author

Formal instructional pathway - these pathways are located adjacent to formal class instruction within the Learning Worlds. They will be indicated by a hard material paving etched with culturally-charged elements associated with the curricula housed within their relevant cultural learning world.

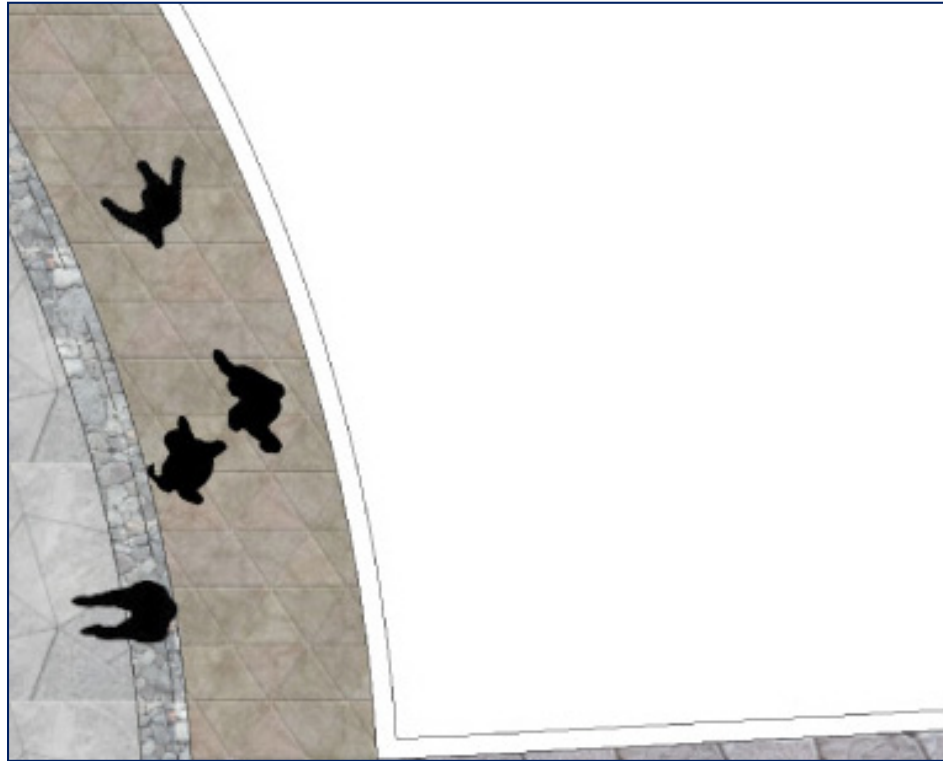


Figure 37: Formal instruction pathway.
Source: Author

Outdoor learning pathway - these pathways will also utilize stone pavers that are pulled apart from each other. This will help the transitioning from a hard surface material of broken stone paving into the natural pathways developed through everyday use. These pathways transition users from formal instruction into extended learning areas.

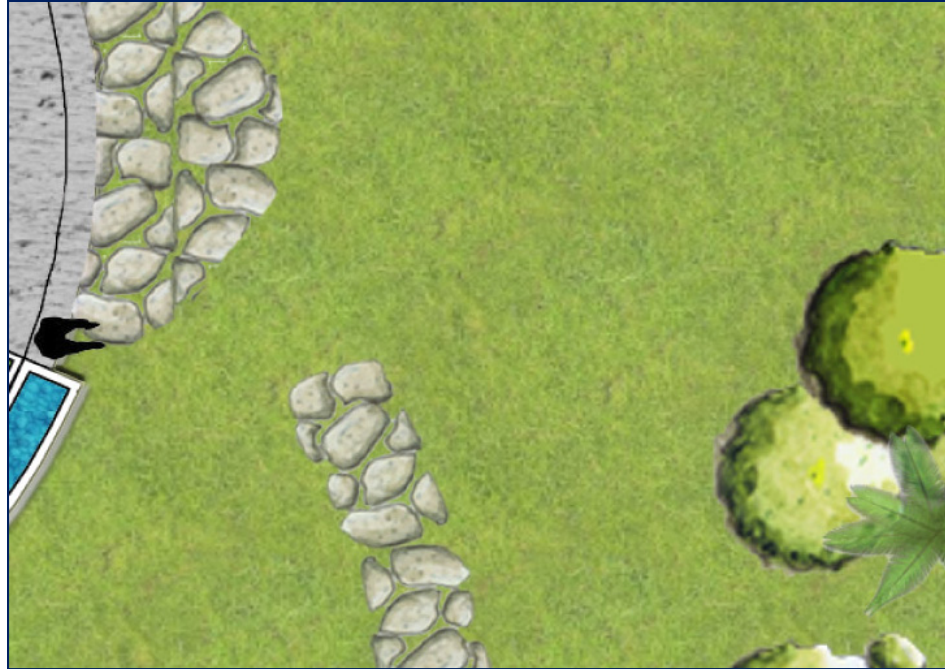


Figure 38: Outdoor learning pathway.
Source: Author

Figure 39 illustrates the major circulation pathways radiating outwards from the main piko providing clear indication of wayfinding throughout the school. Other pathways ways and surface materials helps informs users of activity or instruction that maybe occurring in this space.

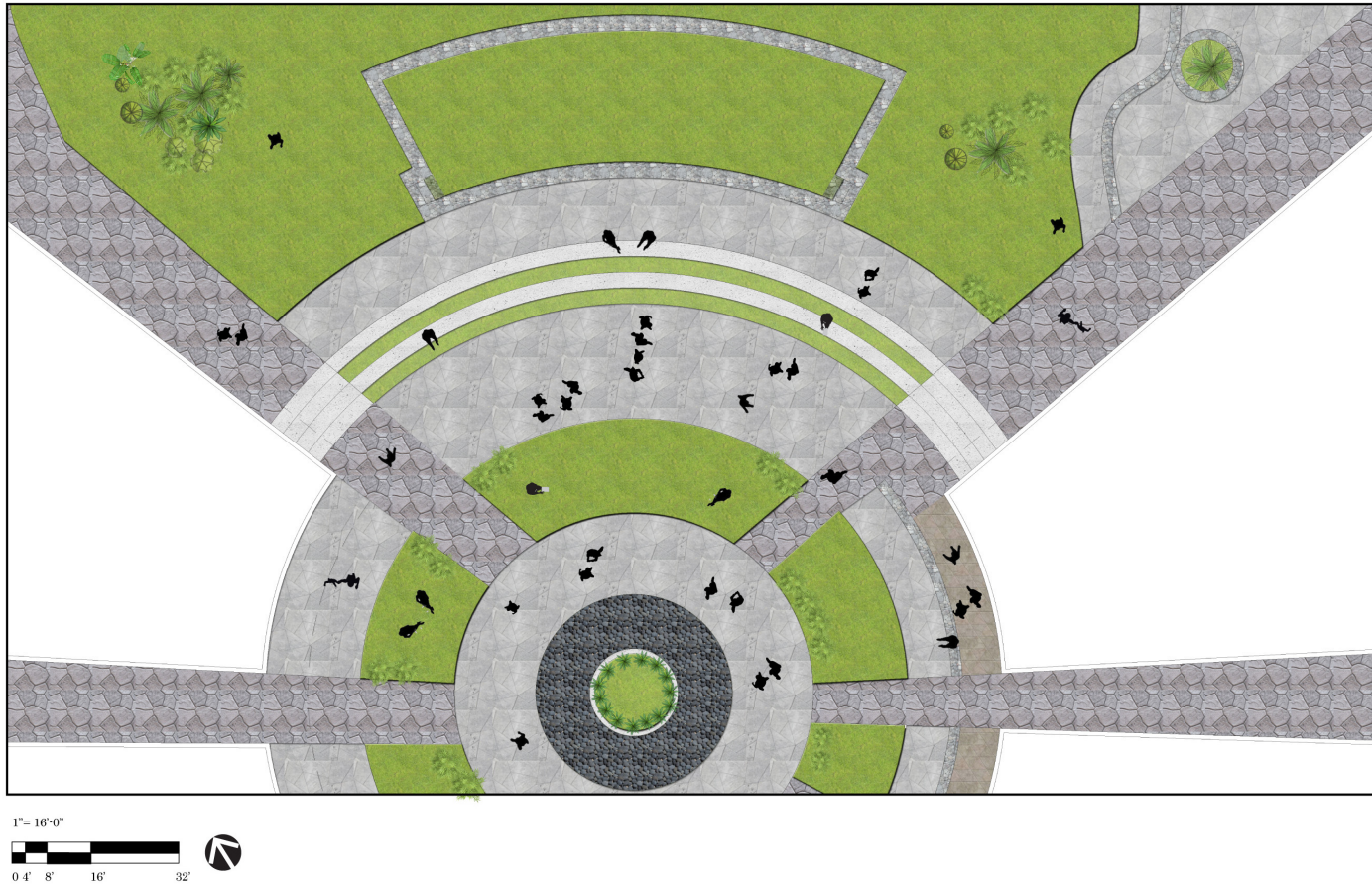


Figure 39: Enlarge main piko plan.
Source: Author

Figure 40 illustrates major circulation pathway linking to the Hale kilo (Outdoor Navigator Observatory Compass and the Aquaponics and Produce Garden. Upon exiting this space one transitions towards other outdoor extended learning areas marked by the learning pathways of stone and grass.

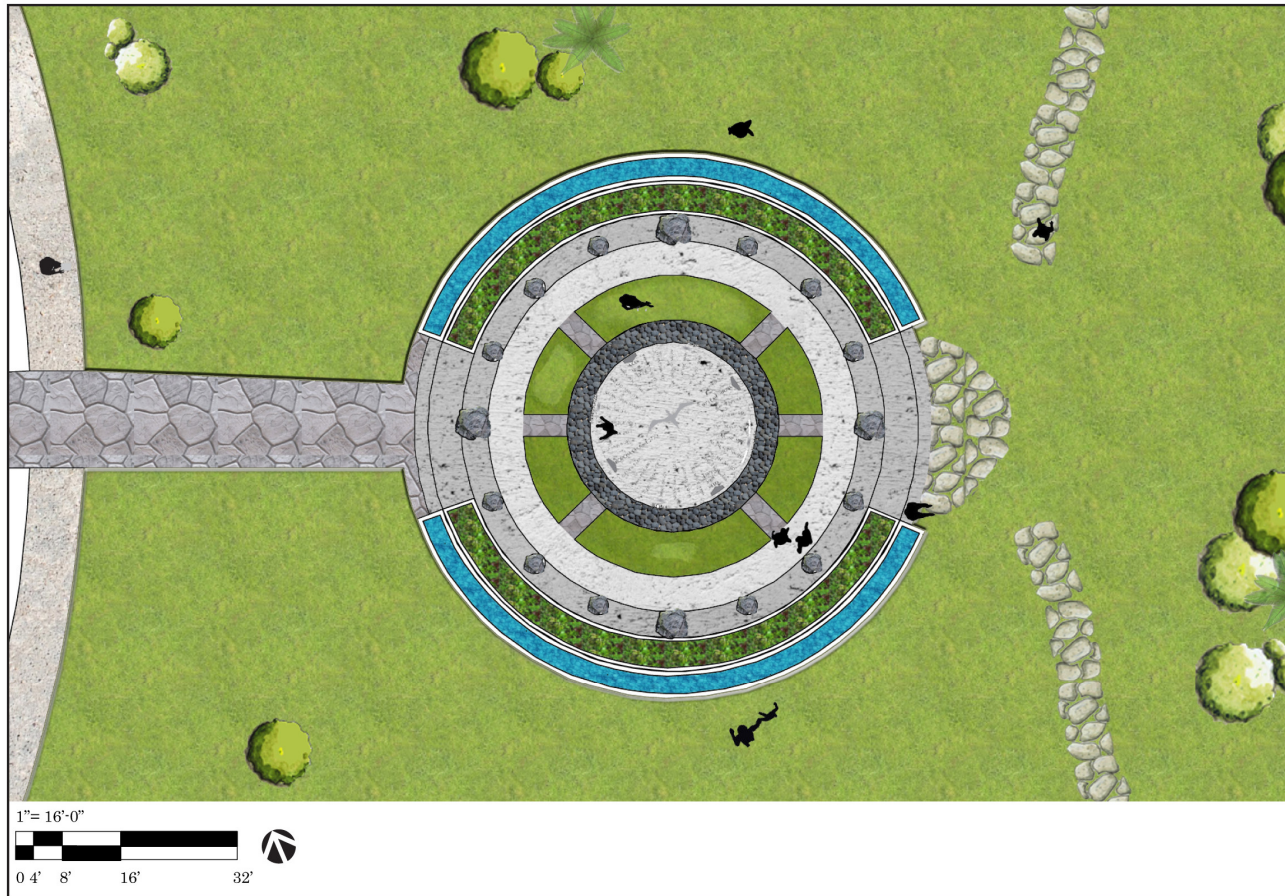


Figure 40: Enlarge observatory mound.
Source: Author

School Entry and Drop-off- "ho'omaka mai konohi mai"(begin with the beginning).²³¹ Initiating ones' experience of the natural environment removed from the formality of traditional school settings. As understudies enter into the main entry plaza they are connected with the school visually and physically with plant species and natural stone walkways (as seen in figure 41 and figure 42).



Figure 41: Enlarge school entry drop-off plan.
Source: Author

²³¹ Pukui, Mary Kawena, E.W. Haertig, and Cathine A. Lee. *Nānā I Ke Kumu= Look to the Source*. Vol.II. Honolulu: Hui Hanai, 1972, 65.



Figure 42: Entry plaza.
Source: Author

Softscapes

Softscapes utilize vegetation, native habitat and gardens to soften design areas. A small portion of plants endemic to Hawai‘i and the selected location will be included in the proposed school’s conceptual master plan. They will be included in Entry, Piko and breakout spaces, pathway edges, and the school perimeter.

Vegetation- a variety of species ranging in height and hardness will be utilized throughout the campus layout to assist with cultural learning via sensory nodes. Incorporating native vegetation in piko, breakout, and extended learning spaces provides the opportunity for users to experience and engage with the school’s natural environment.

As in traditional times plants and fauna was not only important for food sustenance, but also medicinal, offerings, and adornment.

The following is a list of those small portion of plants:

- | | | |
|------------------|-----------|--------------|
| 1. ‘Awa | 2. Hala, | 3. Haole Koa |
| 4. Hau | 5. Wauke | 6. Kī |
| 7. Kō | 8. Mai‘a | 9. Noni |
| 10. ‘Ōhi‘a Lehua | 11. ‘Uala | 12. ‘Ulu |

Extended learning areas (outdoor instruction):

Integrated within the campus layout are areas which utilize both project-based and place-based learning methods, while perpetuating cultural practices. This is viewed as ‘āina-induced learning. These methods of teaching cater for a variety of learners. The intent is to provide an ecological and culturally relevant learning experience geared towards the immediate surroundings. In many aspects these extended outdoor learning spaces are viewed as traditional elements. These extended learning areas are illustrated in figure 43, and are as follows:

1. Hale kilo (Outdoor Navigator Observatory Compass), and the Aquaponics and Produce Garden.
2. Hale spaces for Craftsman, Planters and Physicians’, and Performers’ Learning Worlds. (see community integration spaces section)
3. Breakout spaces
4. Lo‘i Kalo Field and Imu Pit (underground oven)
5. Native Forest Habitat
6. Outdoor Medicinal Garden and Nursery
7. Botanical Gardens

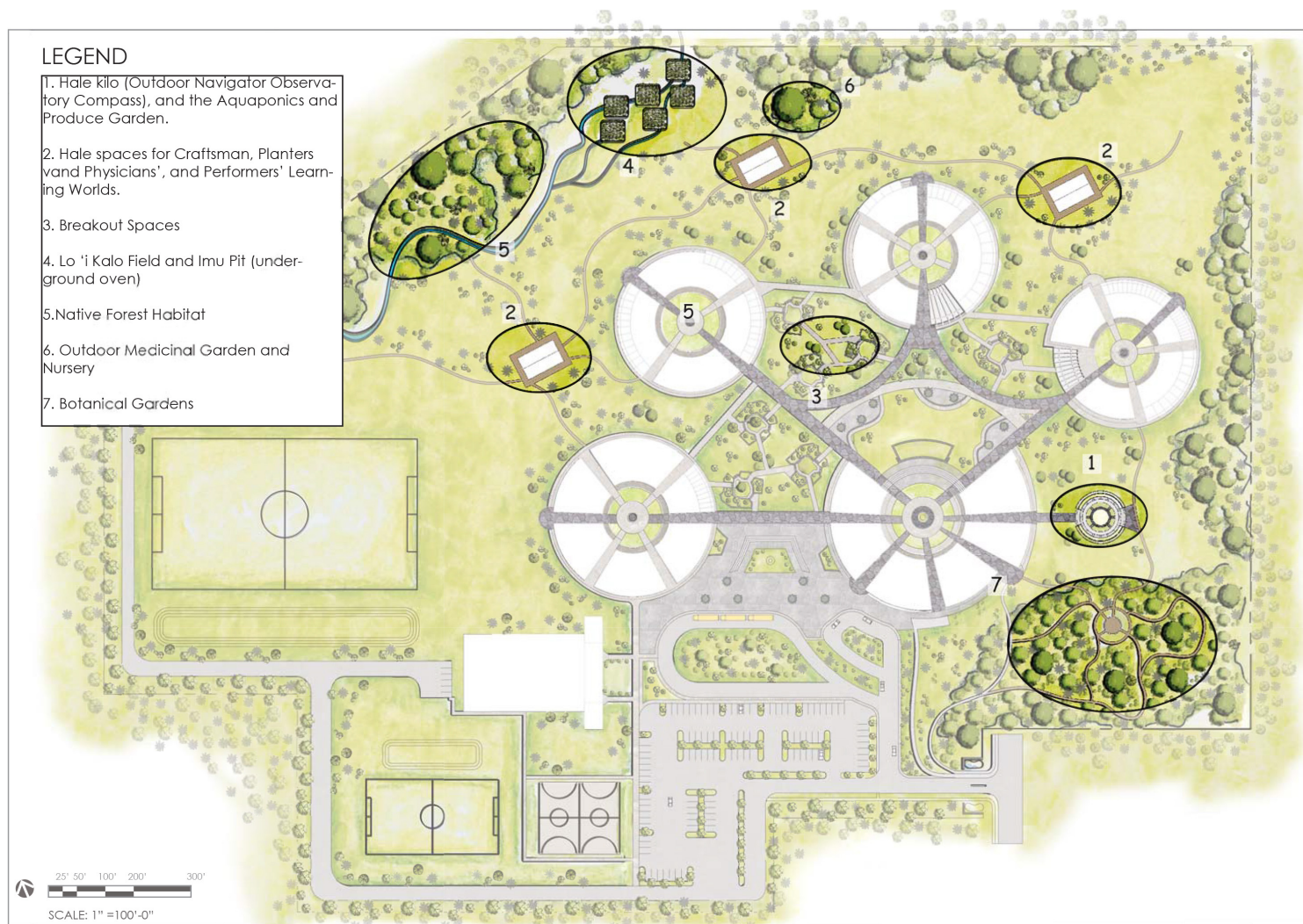


Figure 43: Extended learning areas.
Source: Author

Hale kilo (Outdoor Navigator Observatory Compass), and the Aquaponics and Produce Garden: In figure 44 the outdoor observatory compass provides understudies the understanding of ones' location (in space) in reference and dependent on the 'āina (land). Larger rocks will indicate major coordinial points, as other smaller rocks- sun alignments, moon, phases, and other celestial alignments within the given location, and an extension thereof. As the solstices were important, so too were the phases of the moon determining tides due to gravitational pull, and its relation to water and plant nutrients. This aids in understanding and relation of the aquaponics and produce garden to association to the observatory compass and the two cultural learning worlds of Navigator and Kāhuna. Refer to landscape strategies figure 40 for circulation pathways.

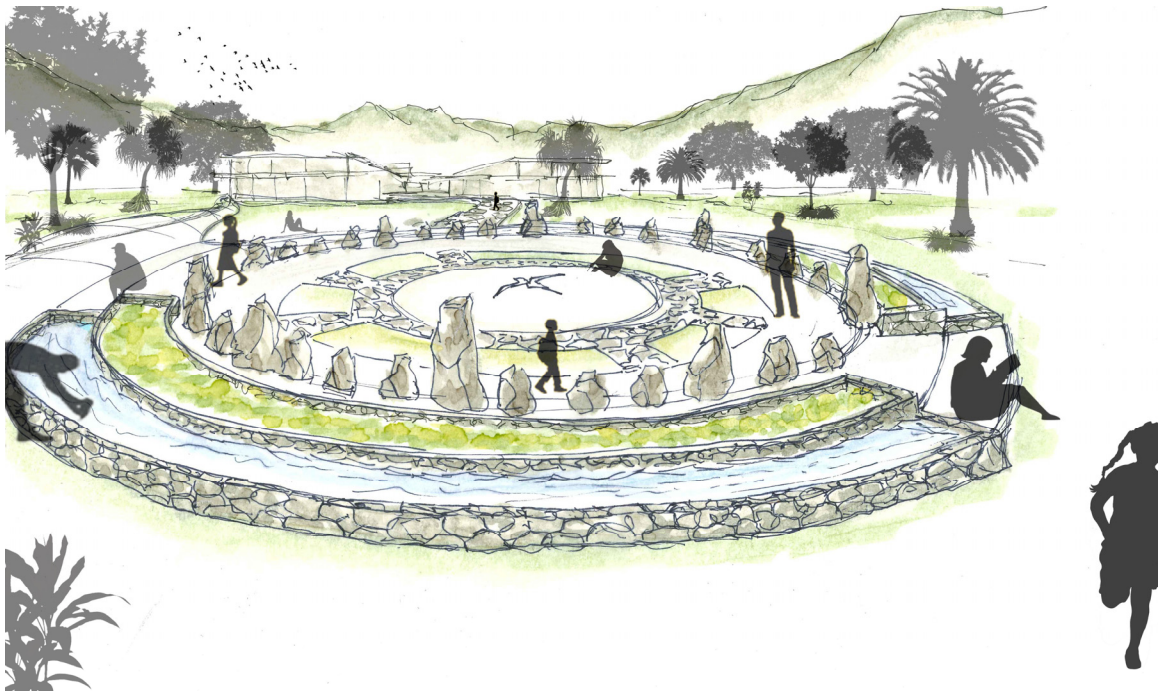


Figure 44: Hale Kilo (Observatory Mound) and the Aquaponics and Produce Garden.
Source: Author

Community Integration Spaces:

Combined with the Planters and Physicians' Worlds will be the Kūpuna/‘Ōhana World. This World is located adjacent to several main extended outdoor learning areas and is a designated for community leaders, parents, family members, and cultural practitioners (such as M‘AO Organic Farms, Searider Productions Academy, and Ka‘ala Farms). This World houses curricula which are delivered by facilitators who are afforded the outdoor hale spaces. A hale is defined as an outdoor building, or open air structure. This will help to evoke a sense of cultural learning and comfort for both the instructors and understudies. These outdoor hale spaces are also viewed as extended outdoor learning areas, as mentioned previously (see figure 45).

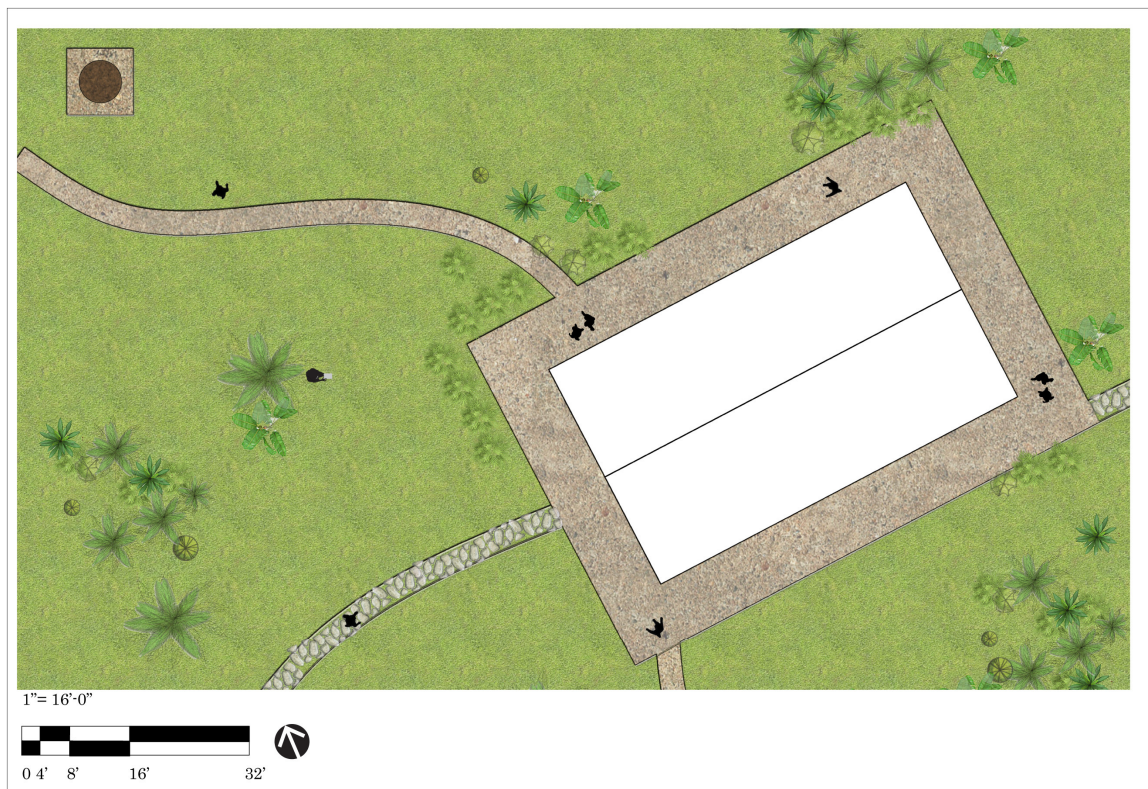


Figure 45: Enlarge plan of hale space

Figure 45 outdoor hale space is located towards the back of the school adjacent to the Lo‘i Kalo Field, Imu Pit (underground oven) and native forest habitat. This area of outdoor instruction affords understudies the opportunity to experience and connect to

cultural and ecological practices. As the ‘āina (land, that which nourishes) is believed as the necessary component to sustain the balance of life, so are these outdoor learning spaces. Understudies are placed in an environment which correlates to cross curricula content acquired in books, but applied hands on.

Breakout spaces - located in the grassy areas of the school will be breakout spaces for either small group learning or personal areas away from formal instruction (as seen in figure 46). These spaces will be indicated by native plant species, wood furniture, and stone paving and walls. The use of grass will soften the space and allow users to understand that informal learning or relaxation occurs here. Other culturally-charged vegetation and materials will be incorporated to provide shade and personal boundary awareness.



Figure 46: Breakout space render with vegetation
Source: Author

Lo 'i Kalo: Taro patches are known as "cultural kipuka." A kipuka is a little hill that escapes the scorching lava flow around it. It serves as a source of seeds when the land cools down and can regenerate. Taro patches are kipuka for Hawaiian culture. In this extended learning space youth can connect to the land, and learn and practice the ways of their elders (as seen in figure 47). Hawaiian values come to life: aloha 'āina (love the land), malama 'āina (take care of the land), laulima (work together), and kōkua (help without being asked). Nothing connects a person to the earth quite as effectively as standing knee-deep in the squishy mud of a taro patch.²³²



Figure 47: Hale Space (Extended Learning Space)
Source: Author

²³² Regina Gregory, Restoring the Life of the Land: Taro Patches in Hawai'i, (USA - Hawaii), accessed January, 2016, <http://ecotippingpoints.org/our-stories/indepth/usa-hawaii-taro-agriculture.html>.

Habitat Reforestation: Habitat reforestation is an important sustainable component of the conceptual master plan (as seen in figure 48). A biologically diverse forest ecosystem provides support for essential biological functions. A diversified ecosystem allows a forest to recover from natural disasters like drought, fire, and disease. When we lose our native forests, we lose the important ecological services they provide, as well as a big part of the collective natural and cultural heritage of our Islands. The quality of our environment and our own quality of life are diminished. So, too, is the quality of life that we pass on to our children.²³³

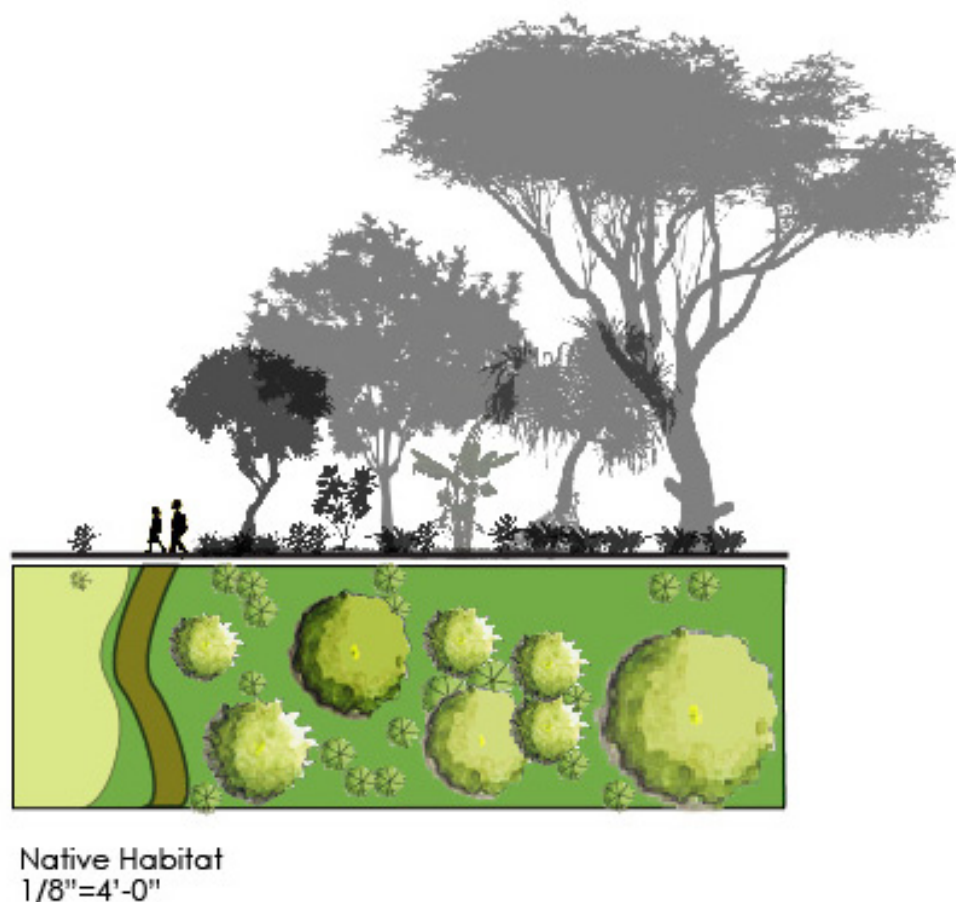


Figure 48: Native Habitat (Extended Learning Space)
Source: Author

²³³ The Nature Conservancy of Hawai'i, *The Last Stand, The Vanishing Hawaiian Forest*, (Centennial 2003), 9.

Medicinal Nursery: The vision is to create a garden as a living outdoor classroom that will provide opportunities for learners to appreciate Hawaiian ancestral knowledge and re-establish their connection to the land, while applying curriculum across content zones. In ancient times, Hawaiian traditional healers would practice La‘au Lapa‘au (medicinal healing or the Hawaiian art of healing) through the use of plants and spiritual practices for the mind, body and spirit.

Botanical Gardens: The Garden's main purpose will be to serve as an educational center for all visitors, and especially for teaching youth (as seen in figure 49). Its trails will provide an "outdoor classroom" of living plants. Signs along the trails will identify plants and trees by both common and botanical names, as well as their country of origin. Some signs will relate legends connected with particular plants and tell stories of Garden landmarks.²³⁴



Botanical Garden
1/8"=4'-0"

Figure 49: Botanical Garden (Extended Learning Space).
Source: Author

²³⁴ Hawaii Tropical Botanical Garden, A Garden in a Valley on the Ocean, Accessed February, 2016.
<http://www.htbg.com/education.html>

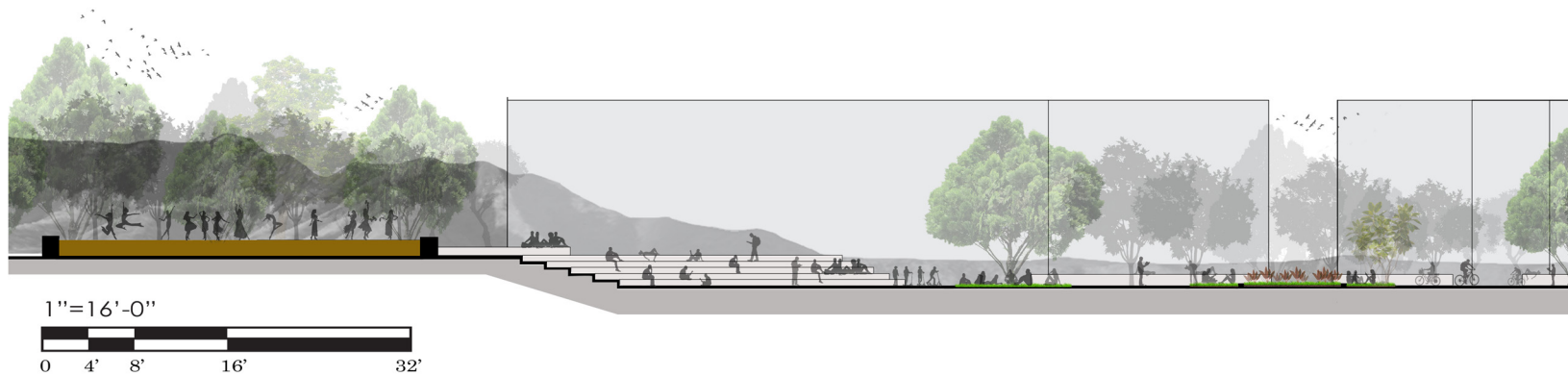


Figure 50: Piko section
Source: Author



Figure 51: Native Forest, Loi Kalo, and Hale Section
Source: Author



Figure 52: Breakout space section
Source: Author

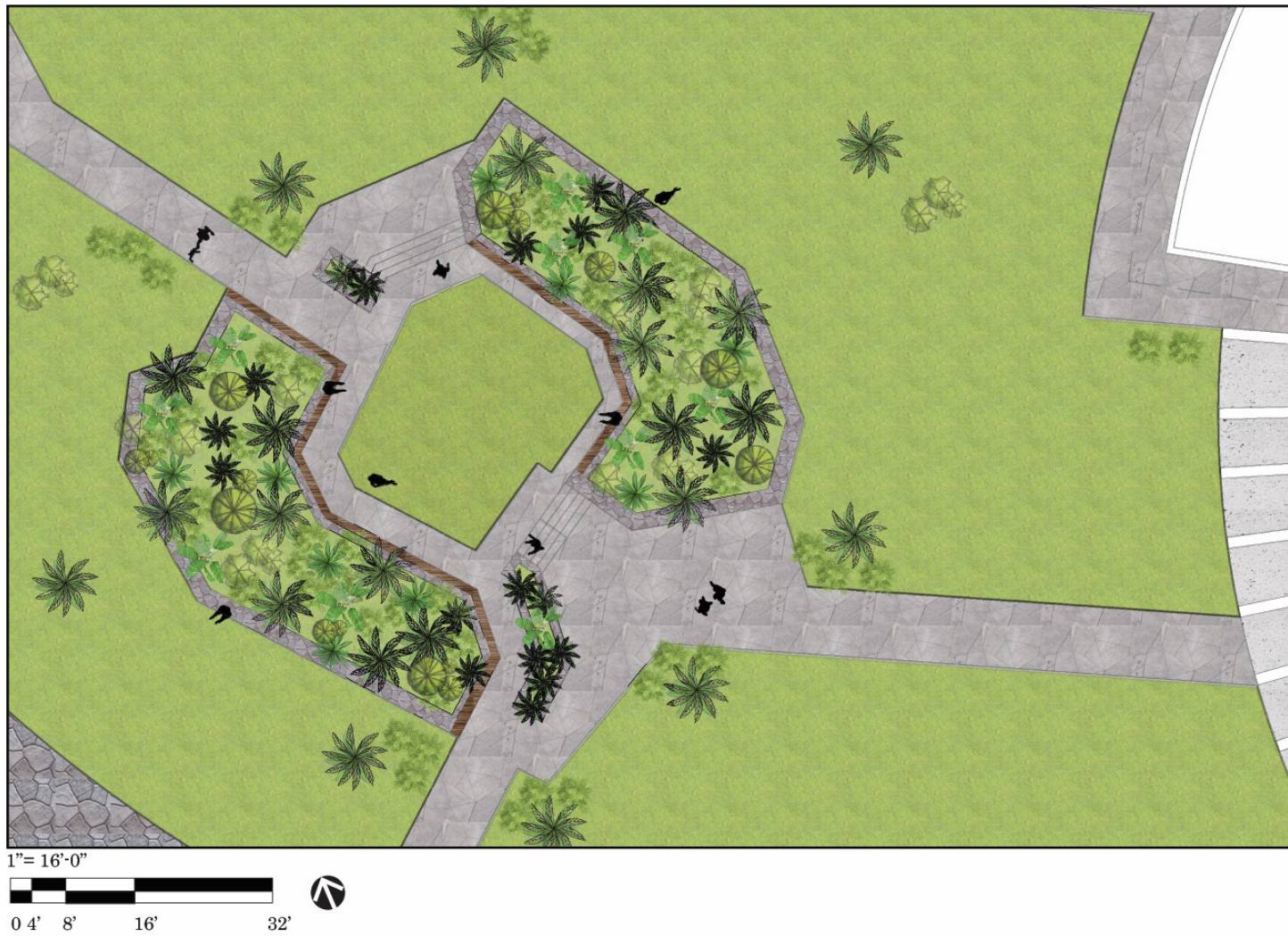


Figure 53: Enlarge breakout space plan
Source: Author

Conclusion

Synopsis of Master Plan/ Research Statement

The initial goal of this project was to utilize culture to restore the identity of the given locale and build a sense of positivity to an area which has been overshadowed by uninformed, negative stereotypes. As culture plays an essential role within this school design project, learning has been analyzed through the Hawaiian worldview perspective. This thesis argues that a change in mindset via culture will assist residents of this particular community to grow, connect, and find learning stimulating and relevant, effectively preparing understudies to exit the school system as either career or college-ready.

Due to the long-term displacement of cultural practices and languages, the method of educational instruction and site awareness has veered away from the traditional mindset. A comprehensive analysis of potential school sites and learning models was conducted to inform both site selection and the learning model to be incorporated in the proposed school's design. This analysis incorporated the perspectives of both the Kuhikuhū'uone (traditional architect) and the Kūpuna (traditional teachers). The two aided in the development the conceptual master plan of a hybrid educational model aimed to providing a stimulating and culturally relevant learning environment.

The Kuhikuhū'uone and Kūpuna both espoused a traditional outlook on Hawaiian learning and understood that it is deeply connected to the 'āina (land). The research of these two enabled the given locale to be thoroughly analyzed, with appropriate sensitivity to the site, users, and the environment. The completion of this initial research also allowed the integration of guiding principles from both contemporary (Dane Court Grammar School) and non-contemporary (Kanu o ka 'aina) schools within the proposed new school's educational model.

As a thesis goal was to build a strong link between the proposed school and the community, it became apparent that the integration of communal programs such as

M‘AO Organic Farms, Ka‘ala Farms, Searider Productions Academy, and extracurricular activities would be vital components strengthening familial social connections and support systems- all conclusive of the conceptual master plan.

The fusing of all of the above - culture, education, and community - is manifested through a conceptual master plan for the design of a contemporary learning environment that caters for all students, methods, and spaces of instruction.

Main Findings

Project-based and Placed-based learning methods that are currently being applied in the 21st century actually reflect many aspects of traditional learning methods of instruction, and act as a vehicle for the natural environment to become an extended classroom. These learning methods immerses understudies in local heritage, cultures, landscapes, opportunities and experiences. In these circumstances, learning works to capture the strong association people tend to develop towards their communities and utilizes education which heavily incorporates an individual’s environment. By doing so, today's understudies is afforded the opportunity to become more culturally aware of one’s natural environment.

As a result this may lead to understudies in building awareness of *how* and *where* they effectively acquire such learning. As youth are immersed in a learning environment which caters for all users and spaces, one can discover skills and abilities which are heighten beyond the formal environment of instruction. As the current curricula is based solely on *what* understudies learn, in many ways it fails to focus on *how* they learn. In this hybrid educational model understudies may inform its facilitators in what methods and spaces of instruction increases their learning capacity. In turn this enables facilitators to develop curricula and instructional spaces which caters to the learning abilities of all. This results in a learning environment which utilizes the selected site and its surrounding landscape in the development of an innovative education curriculum.

Lessons Learned

The author has found that the use of historical and cultural backgrounds within the given locale provided the opportunity for an extensive analysis that was sensitive to all users and the environment. During the author's experience through the architectural program at the University of Hawai'i at Mānoa, it became apparent from observing various academic and professional projects that cultural awareness is lacking and that cultural research is rarely utilized in the design planning process. Projects observed often fell short in terms of an architectural design which effectively incorporates people, culture, and most of all, the environment. The lack of cultural awareness in these design projects have influenced how we learn, and also in what spaces we learn, work, or reside. Ineffective designs ultimately alienate users from fully experiencing spaces in all ways in which they experience them. It has become the author's goal to ensure that the process of master planning educational environments or any other architecturally designed space is sensitive to people, place, and culture. This may lead to effective learning through unconventional methods, and a paradigm shift in both the academic and professional world of design.

Project expansion and future development

The model proposed in this thesis to integrate culture, education, and community as a singular unit into a hybrid educational environment which caters for all learners, methods, and spaces of instruction requires ongoing development. It has become apparent that there are opportunities for expansion. First, a variety of other cultural philosophies and values, curricula, practices, and community programs statewide could be analyzed and potentially utilized as vehicles of opportunity in further developing culturally-based educational models. Second, the architectural design of each cultural world provides an opportunity for it to be highly influenced by each world's traditional profession. Further exploration and development of these two factors will further enhance the proposed hybrid educational model, taking learning far beyond the conventional layouts and design of today's instructional spaces. In this type of environment understudies will be immersed in a culturally relevant environment at all times, and in all ways.

This thesis recognizes culture as a vital component of design, and the fact that learners acquire knowledge in different ways. This needs to become the kuleana of all, especially those in the design world who develop learning environments which should effectively facilitate all the ways in which understudies learn. This study represents the initial process towards the planning and design of such learning environments and educational models. Education have long recognized the need to construct and differentiate lessons based on the capabilities of understudies, but far less attention has been focused on understanding how students actually learn. This thesis has explored this and outlined how design and planning must move far beyond the conventional methods in order to develop learning environments which are conducive to all learners, methods, and spaces.

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Appendix 1: Hawaiian Glossary

Table of Hawaiian Words

‘āina, *land*

ahupua‘a, *sub-district (land divisions extending from mountain to sea)*

akua, *gods*

ali‘i, *chiefs*

‘auwai, *irrigation ditch*

‘Ewa, *district on O‘ahu*

Haleakalā, *house belonging to the sun*

hani‘d, *permanently given*

hiapo, *first male child*

Hina, *mother of Māui*

hō‘ailona, *omens*

‘ili, *small land section*

‘Ilihune heiau, *located on the southeastern slopes of the Pu‘u Heleakalā Mountain*

‘ike pāpālua, *second sight, knowledge*

kahahana, *O‘ahu high chief*

kahuna, *priest, class of leading experts*

Kaiāulu, *winds of Wai‘anae*

Kalo (taro), *Colocasia esculenta (Linnaeus) Schott*

kanaka, *person*

Kanu o ka ‘aina, *public charter school on the Island of Hawai‘i*

Kapu system, *traditional beliefs system*

Ka‘opulupulu, *high priest of O‘ahu*

Kea‘au, *sub-district in Wai‘anae*

Keawa‘ula, *sub-district in Wai‘anae*

Keiki, *child*

Keko‘o, *spring in Wai‘anae*

Kula, *sloping lands between the sea and mountains*

Kuleana, *small private land holding, responsibility*

Kūpuna, *elders*

Lualualei, *sub-district in Wai‘anae*
maka‘āinana, *common people*
Mākaha, *sub-district in Wai‘anae*
Makai, *ocean*
Mākua, *sub-district in Wai‘anae*
Manao, *belief, opinion*
Māui, *Hawaiian hero*
Mauna Kapu, *mountain range of Nānākuli Valley*
Mele, *song*
Moku, *island, or district of large island.*
mo‘olelo, *stories*
Nānākuli, *sub-district in Wai‘anae*
‘ōlelo no‘eau, *proverbs*
oli, *chants*
Pālehua, *mountain range of Nānākuli Valley*
Palikea, *mountain range of Nānākuli Valley*
Piko, *center, place of focus*
Pu‘u Heleakalā, *mountain range of Nānākuli Valley*
Pu‘u Manawahu, *mountain range of Nānākuli Valley*
Samuel Kamakau, *Hawaiian historian*
wai, *fresh water*
Wai‘anae Kai, *sub-district in Wai‘anae*
Wahi Pana, *celebrated places told through stories in Hawaiian cultural traditions*
‘Uala, *sweet potato*
Ulehawa Stream, *stream in the Lualualei ahupua‘a*
‘Ulu, *breadfruit*

Appendix 2: Education Specifications (EDSPECS) Cross Curricula Bubble Diagram

Navigators' World

Kahuna World

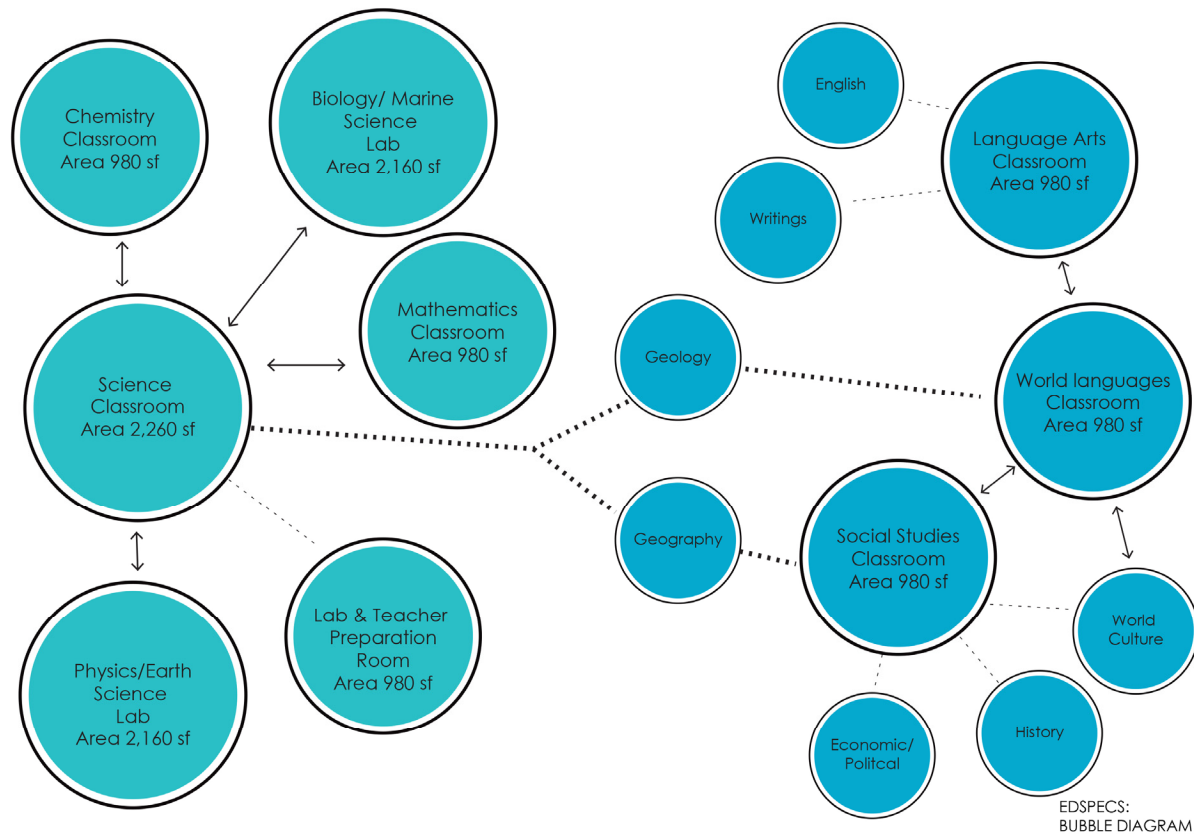


Figure 54: Navigators' and Kahuna World curricula.
Source: Author

Craftmans World

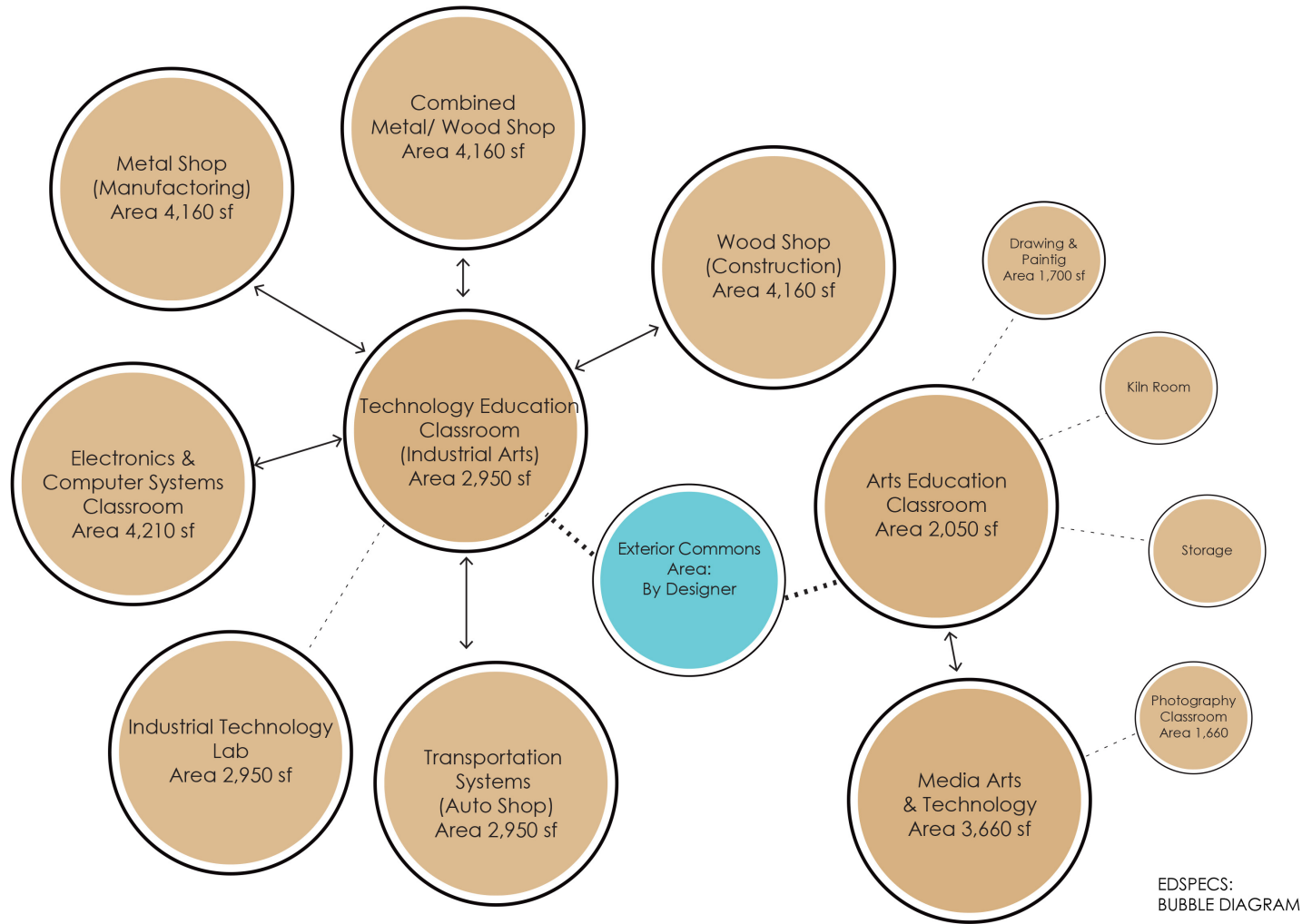


Figure 55: Craftsman World curricula
Source: Author

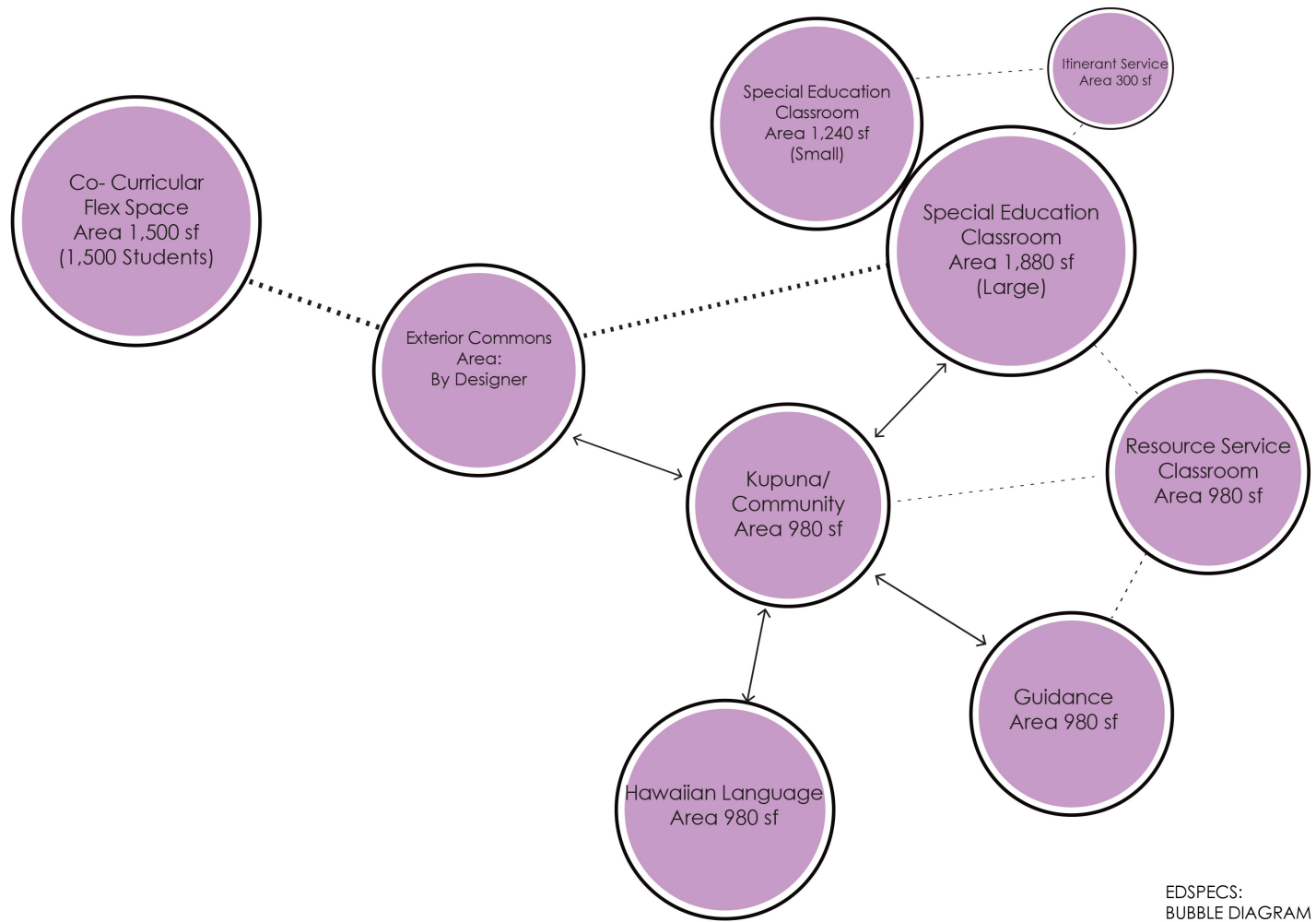
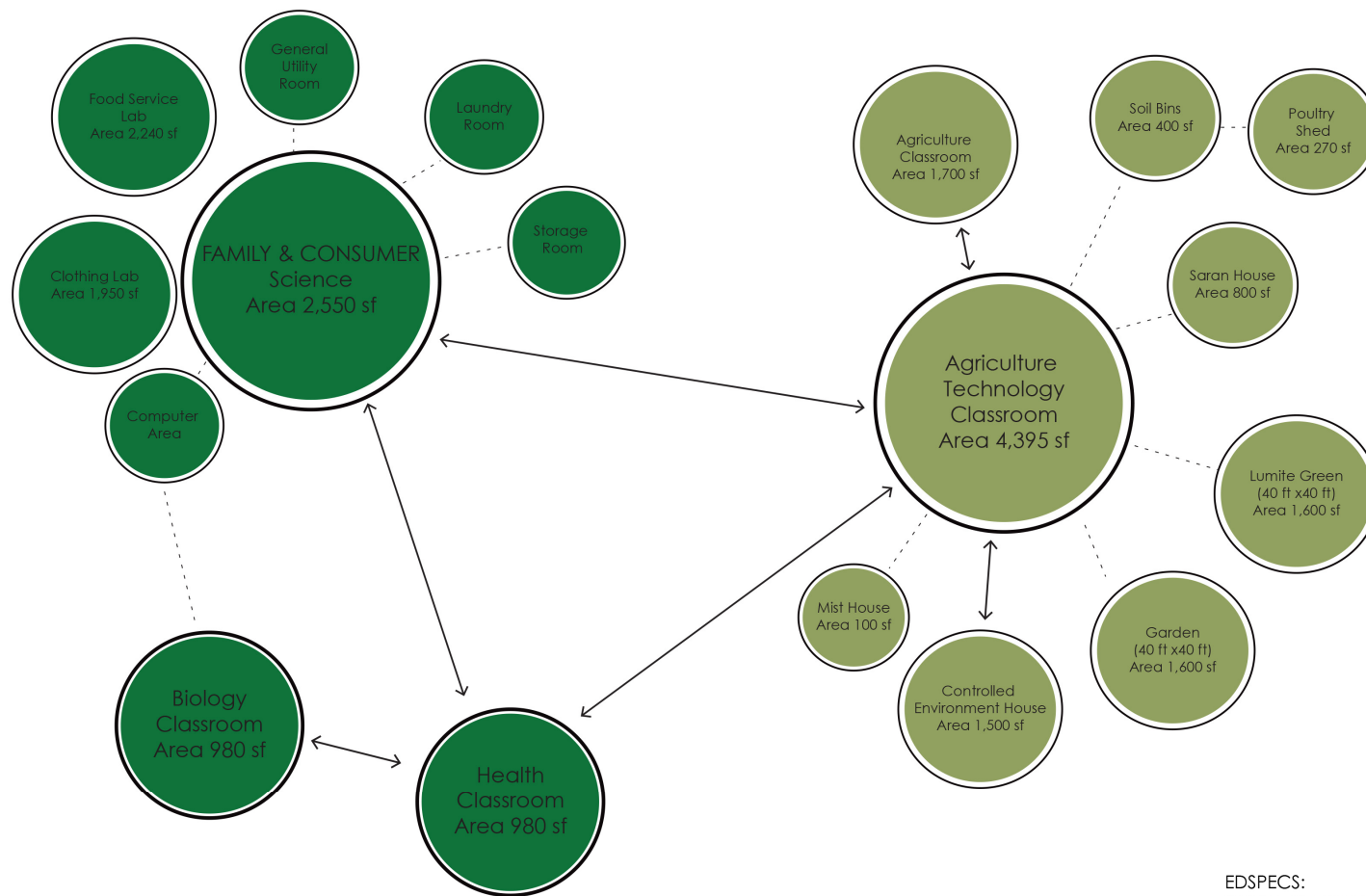


Figure 56: Ohana World curricula
Source: Author

Physicians World

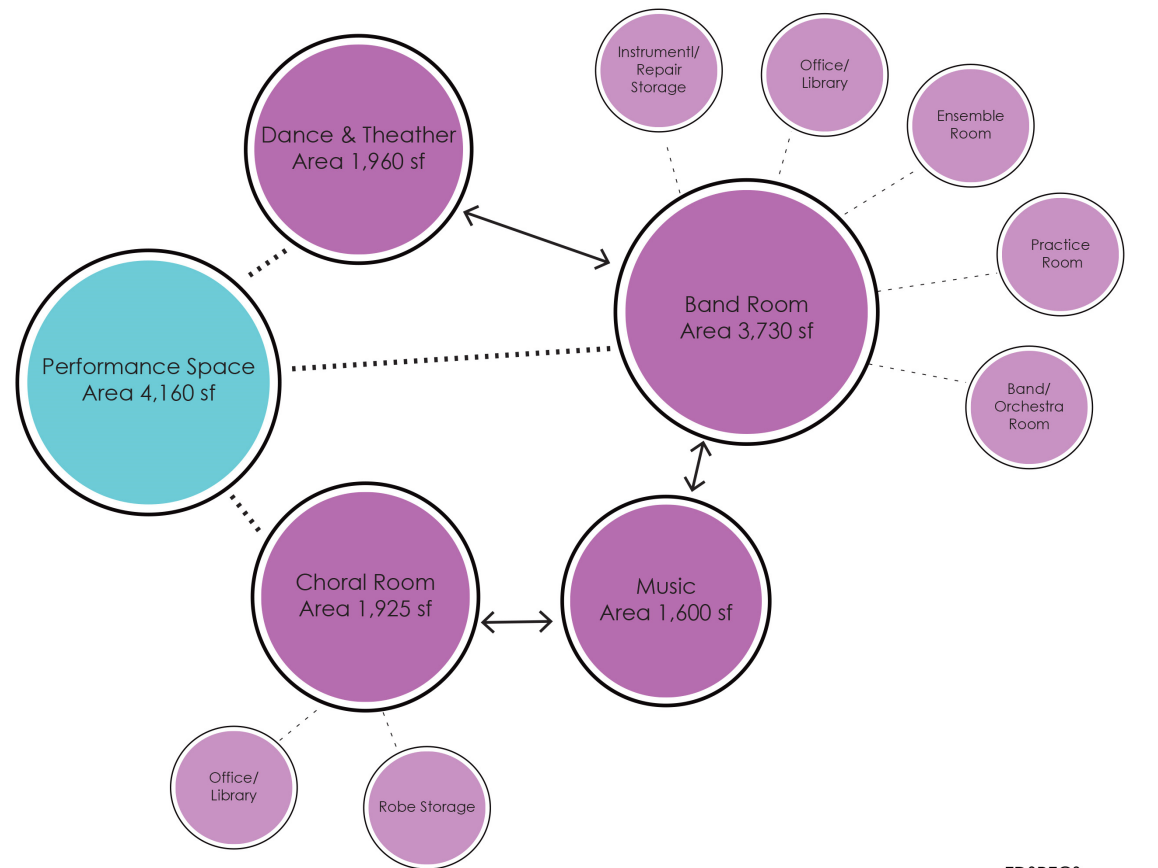
Agriculture World



EDSPECS:
BUBBLE DIAGRAM

Figure 57: Physician' and Agricultural World curricula
Source: Author

Performers' World



EDSPECS:
BUBBLE DIAGRAM

Figure 58: Performers' World curricula
Source: Author

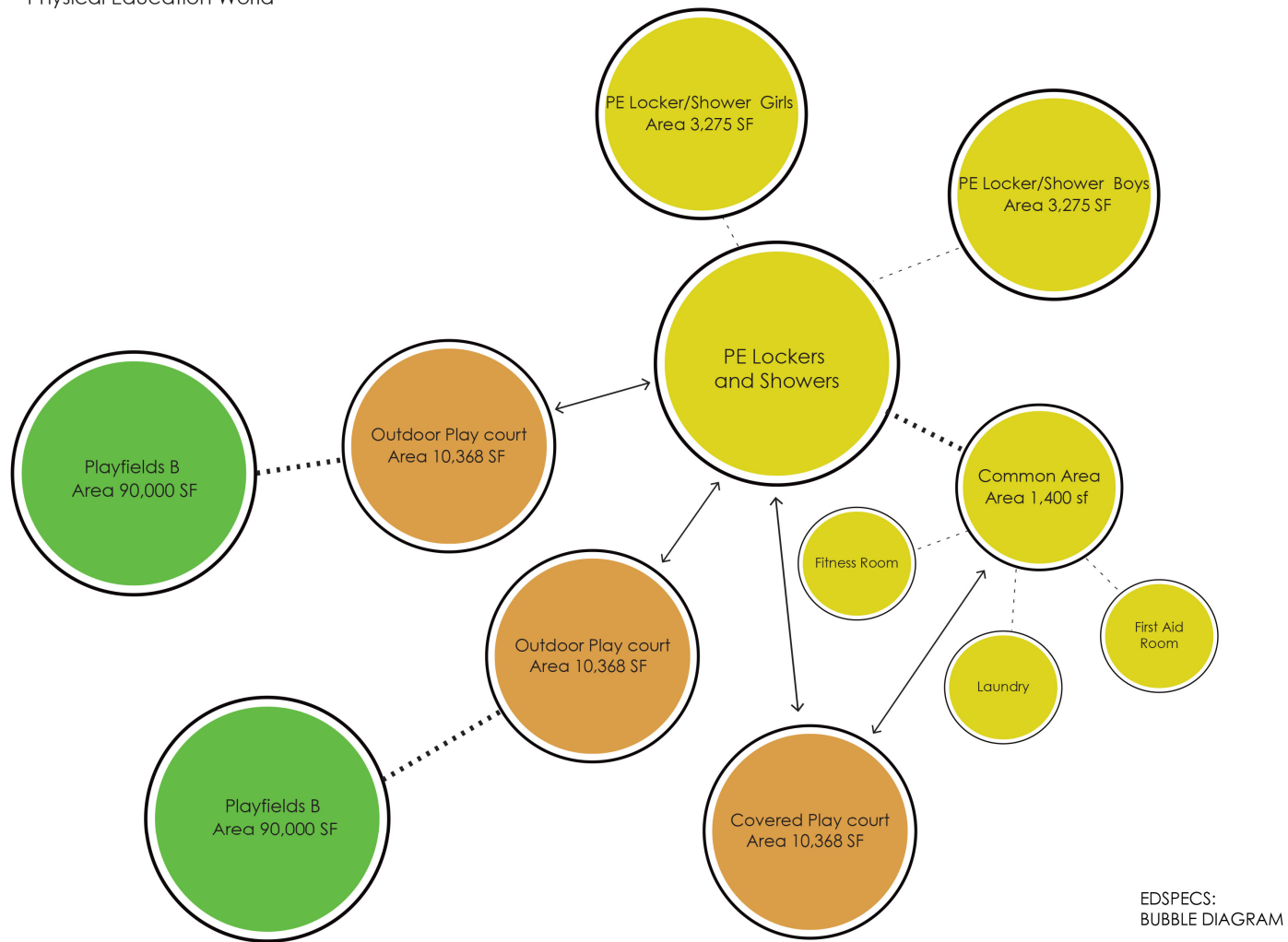


Figure 59: Physical World curricula
Source: Author